UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO.	: 10,391,393 B2
APPLICATION NO.	: 16/230186
DATED	: August 27, 2019
INVENTOR(S)	: Fraser Townley, Kelly Gamble and Daniel P. Dooley

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

In the Claims

Claim 9, Column 18, Lines 64-65, replace “retention” with “tensioning”;
Claim 9, Column 18, Line 66, replace “retention” with “tensioning”;
Claim 9, Column 19, Lines 8-9, replace “the attachment support” with “an attachment stay;”;
Claim 10, Column 19, Line 13, replace “support” with “stay.”.

Signed and Sealed this
Ninth Day of June, 2020



Andrei Iancu
Director of the United States Patent and Trademark Office

Filed Electronically on February 7, 2020 ***PATENT***
Dkt. No. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	)	
	)	
Fraser TOWNLEY *et al.*	)	Issue Date: August 27, 2019
	)	
Patent No.: 10,391,393	)	Confirmation No.: 4427
	)	
Filed: December 21, 2018	)	Art Unit: 3715
	)	
For: GAME CONTROLLER WITH STRUCTURAL BRIDGE	)	Examiner: YEN, Jason Tahai

REQUEST FOR CERTIFICATE OF CORRECTION P[URSUANT TO 37 C.F.R. § 1.323

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Upon reviewing the above-identified patent, Patentee has identified four errors of a clerical or typographical nature, or of minor character, which should be corrected:

Claim 9, col. 18, lines 64-65, replace "retention" with "tensioning";

Claim 9, col. 18, line 66, replace "retention" with "tensioning";

Claim 9, col. 19, lines 8-9, replace "the attachment support" with "an attachment stay;"

Claim 10, col. 19, line 13, replace "support" with "stay."

The correction of these errors would bring dependent claims 9 and 10 in conformance with the description in the specification of at least Col. 12, l. 48 – Col. 13, l. 24 (related to FIG. 28) and Col. 15, l. 63 – Col. 16, l. 28 (related to FIG. 38). Accordingly, the correction of these errors does not involve any changes in the patent as would constitute new matter or would require re-examination.

Transmitted herewith is a proposed Certificate of Correction effecting such amendments. Patentee respectfully requests the granting of the Certificate of Correction.

Payment of $150.00 is being made by credit card via EFS web. If an additional extension and/or fee is required by this paper, charge Account No. 506295

Respectfully submitted,

Date: February 7, 2020

/Randall K. McCarthy/

Randall K. McCarthy, Registration No. 39,794
Hall Estill Attorneys at Law
100 North Broadway Avenue, Suite 2900
Oklahoma City, OK 73102
Telephone: (405) 553-2300
Customer No. 33900

PTO/SB/44 (09-07)
Approved for use through 01/31/2020. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.
(Also Form PTO-1050)

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 10,391,393

APPLICATION NO.: 16/230,186

ISSUE DATE : August 27, 2019

INVENTOR(S) : Fraser Townley, Kelly Gamble, Daniel P. Dooley

It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Claim 9, col. 18, lines 64-65, replace "retention" with "tensioning";
Claim 9, col. 18, line 66, replace "retention" with "tensioning";
Claim 9, col. 19, lines 8-9, replace "the attachment support" with "an attachment stay;"
Claim 10, col. 19, line 13, replace "support" with "stay."

MAILING ADDRESS OF SENDER (Please do not use Customer Number below):
Randall K. McCarthy
Hall Estill Attorneys at Law
100 N. Broadway, Suite 2900
Oklahoma City, OK 73102

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Patent Application Fee Transmittal

Application Number:	16230186
Filing Date:	21-Dec-2018
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Filer:	Randall Kevin McCarthy/Priscilla Anderson
Attorney Docket Number:	OKC03962.2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
CERTIFICATE OF CORRECTION	2811	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**150**

Electronic Acknowledgement Receipt	
EFS ID:	38528229
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Randall Kevin McCarthy/Priscilla Anderson
Filer Authorized By:	Randall Kevin McCarthy
Attorney Docket Number:	OKC03962.2
Receipt Date:	07-FEB-2020
Filing Date:	21-DEC-2018
Time Stamp:	15:31:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$150
RAM confirmation Number	E202027F31504600
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Request for Certificate of Correction	2020-02-07-RequestForCertOfCorrection.PDF	24143 f4689f6949da330f874be7cef02618458bcfdeab	no	2
Warnings:					
Information:					
2	Request for Certificate of Correction	2020-02-07-CertOfCorrection.PDF	103354 9cb1284d972862b53561a8748e09f5d85a0e830e	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30354 2b3f07dd1759c7f890b8de5ba3f86276cc2833c3	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	157851		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	08/27/2019	10391393	OKC03962.2	4427

33900 7590 08/07/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):

Fraser Townley, Pembroke, MA;
Wikipad, Inc,, Simi Valley, CA;
Kelly Gamble, Simi Valley, CA;
Daniel P. Dooley, Oklahoma City, OK;

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Doc Code: IFEE PTOL/85B-EFS

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
16230186	21-Dec-2018	Fraser Townley	OKC03962.2	4427

TITLE OF INVENTION :

GAME CONTROLLER WITH STRUCTURAL BRIDGE

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	Utility under 35 USC 111(a)	3715	032000	JASON YEN

Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
$500	$0	$500	10-Oct-2019	$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
33900 Hall Estill Attorneys at Law (MDMMY) 100 NORTH BROADWAY SUITE 2900 OKLAHOMA CITY OK 73102-8820 UNITED STATES 405-553-2828 USPTO@dockettrak.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status

Change in Entity Status

○ Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.
Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.

◉ Applicant asserting small entity status. See 37 CFR 1.27.
Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

○ Applicant changing to regular undiscounted fee status.
Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 10

Doc Code: IFEE PTOL/85B-EFS

Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:

☒ Issue Fee	☐ I authorize USPTO to apply my previously paid issue fee to the current fees due
☐ Publication Fee	☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____
☐ Advance Order - # of copies _____	☐ If **in addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number _____ . The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed

NOTE: If no name is listed, no name will be printed
For printing on the patent front page, list to be displayed as entered

1. Hall Estill Attorneys at Law
2.
3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
Wikipad, Inc.	Simi Valley	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/Tyler J. Mantooth/	**Date**	07-11-2019
Name	Tyler Joseph Mantooth	**Registration Number**	60162

WEB IFEE 1.0

Electronic Patent Application Fee Transmittal

Application Number:	16230186
Filing Date:	21-Dec-2018
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Filer:	Tyler Joseph Mantooth/Priscilla Anderson
Attorney Docket Number:	OKC03962.2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPL ISSUE FEE	2501	1	500	500
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**500**

Electronic Acknowledgement Receipt	
EFS ID:	36557689
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Tyler Joseph Mantooth/Priscilla Anderson
Filer Authorized By:	Tyler Joseph Mantooth
Attorney Docket Number:	OKC03962.2
Receipt Date:	11-JUL-2019
Filing Date:	21-DEC-2018
Time Stamp:	14:53:54
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$500
RAM confirmation Number	071219INTEFSW14535300
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	45971 7ef6903a84c7b8558bf910f3fa384be74a5535e6	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32138 345082168750cfce7d37ab8120e98f0740b529a2	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	78109		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Filed Electronically on July 11, 2019

PATENT
Dkt. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:	**Fraser Townley, Kelly Gamble, Daniel P. Dooley**		
Application No.:	**16/230,186**	Group No.:	**3715**
Filed:	**12/21/2018**	Examiner:	**JASON TAHAI YEN**
For:	**GAME CONTROLLER WITH STRUCTURAL BRIDGE**	Notice of Allowance mailed:	**July 10, 2019**

Mail Stop Issue Fee
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

Sir:

This paper is filed in response to the Examiner's Statement of Reasons for Allowance included in the Notice of Allowance/Notice of Allowability mailed July 10, 2019.

REMARKS

The Applicant gratefully acknowledges allowance of the case by the Examiner, but affirmatively denies any acquiescence to the Statement(s) of Reasons for Allowance. The Applicant respectfully submits that the allowed claims meet the requirements of patentability over the art of record, and it is on this basis that the patent grant is proper. The Applicant traverses any view that the patentability of the claims was required by any particular feature, or by all of the features, set forth in the allowed claims.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 16

Thus, the statements and characterizations by the Examiner with regard to the reasons for allowance are expressly denied and will have no preclusive effect on the construction and scope of the claims.

Respectfully submitted,

Date: July 11, 2019

/Tyler J. Mantooth/

Tyler J. Mantooth, Registration No. 60,162
Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 North Broadway Avenue, Suite 2900
Oklahoma City, OK 73102
Telephone: (405) 553-2828
Customer No. 33900

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 17

Electronic Acknowledgement Receipt

EFS ID:	36557574
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Tyler Joseph Mantooth/Priscilla Anderson
Filer Authorized By:	Tyler Joseph Mantooth
Attorney Docket Number:	OKC03962.2
Receipt Date:	11-JUL-2019
Filing Date:	21-DEC-2018
Time Stamp:	14:48:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2019-07-11-Comments.PDF	27877 ebb56965d290bc36b76383214de72afdd32941b8	no	2

Warnings:

Information:	
Total Files Size (in bytes):	27877

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

33900 7590 07/10/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

EXAMINER
YEN, JASON TAHAI

ART UNIT	PAPER NUMBER
3715	

DATE MAILED: 07/10/2019

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	12/21/2018	Fraser Townley	OKC03962.2	4427

TITLE OF INVENTION: GAME CONTROLLER WITH STRUCTURAL BRIDGE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	10/10/2019

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PTOL-85 (Rev. 02/11)

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 20

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

33900 7590 07/10/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	12/21/2018	Fraser Townley	OKC03962.2	4427

TITLE OF INVENTION: GAME CONTROLLER WITH STRUCTURAL BRIDGE

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$500	$0.00	$0.00	$500	10/10/2019

EXAMINER	ART UNIT	CLASS-SUBCLASS
YEN, JASON TAHAI	3715	463-032000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

❑ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

❑ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-09 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1_____
2_____
3_____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ❑ Individual ❑ Corporation or other private group entity ❑ Government

4a. Fees submitted: ❑Issue Fee ❑Publication Fee (if required) ❑Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. **Change in Entity Status** (from status indicated above)

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 21

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	12/21/2018	Fraser Townley	OKC03962.2	4427

33900 7590 07/10/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

EXAMINER	
YEN, JASON TAHAI	
ART UNIT	**PAPER NUMBER**
3715	

DATE MAILED: 07/10/2019

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)
(Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

PTOL-85 (Rev. 02/11)

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 22

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 16/230,186	Applicant(s) Townley et al.	
	Examiner JASON T YEN	Art Unit 3715	AIA (FITF) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☑ This communication is responsive to 6/17/19.
   ☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

3. ☑ The allowed claim(s) is/are 1-15,19 and 23-29 . As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information , please see **http://www.uspto.gov/patents/init_events/pph/index.jsp** or send an inquiry to **PPHfeedback@uspto.gov.**

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   Certified copies:

   a) ☐ All b) ☐ Some *c) ☐ None of the:

   1. ☐ Certified copies of the priority documents have been received.
   2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
   3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file areply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☑ Notice of References Cited (PTO-892)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____.
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material _____.
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date. _____.
5. ☐ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/JASON T YEN/
Primary Examiner, Art Unit 3715

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 24

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Allowable Subject Matter

2. Claims 1-15, 19, 23-29 are allowed.

3. The following is an examiner's statement of reasons for allowance: The specific limitations of (with respect to Claim 1) "a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge comprising a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and a pair of electronic game control modules, each electronic game control module of the pair of electronic game control modules is secured to and interacts with a corresponding confinement structure of the pair of confinement structures, each electronic game control module in electronic communication with the communication link of its corresponding confinement structure, wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their

corresponding confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge", (with respect to Claim 8) "a structural bridge, the structural bridge having a first end associated with a first electronic game control module of a pair of electronic game control modules and a second end associated with a second electronic game control module of the pair of electronic game control modules, the structural bridge configured for adaptation to a computing device, the computing device having a length greater than its width, the structural bridge accommodates the length of the computing device, and in which the structural bridge provides a void, the void disposed between the first end of the structural bridge and the second end of the structural bridge, the void having right, left, upper, and lower sides, each side of the void communicating with a material of the structural bridge", (with respect to Claim 12) "a structural bridge interposed between said first and second electronic game control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first electronic game control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second electronic game control module, said structural bridge still further comprising a retention mechanism, the retention mechanism providing at least a boss, an interaction of the spring member of the restraint with the boss of the retention mechanism couples the structural bridge to at least one of the first and the second electronic game control modules", (with respect to Claim 19) "a first means for attaching an input device to a computing device, said computing device provides a central processing unit and plurality of sides, each of the

plurality of sides cooperating with the electronic display screen of said computing device; and a second means for controlling a movement of a virtual object displayed on said electronic display screen of said computing device, said virtual object provided by an electronic game, said electronic game interacting with said central processing unit, and wherein said second means is accommodated by said input device", in combination with the remainder of the respective claims are not anticipated or made obvious over the prior art of record in the Examiner's opinion.

Game controller with structural bridge is well known in the art. For instance, Wu (2006/0252537) in view of Willis (2014/0274394) teaches a game controller with structural bridge. However, Wu in view of Willis is silent on "a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge comprising a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and a pair of electronic game control modules, each electronic game control module of the pair of electronic game control modules is secured to and interacts with a corresponding confinement structure of the pair of confinement structures, each electronic game control module in electronic communication with the communication link of its corresponding confinement structure, wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their

corresponding confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge", "a structural bridge, the structural bridge having a first end associated with a first electronic game control module of a pair of electronic game control modules and a second end associated with a second electronic game control module of the pair of electronic game control modules, the structural bridge configured for adaptation to a computing device, the computing device having a length greater than its width, the structural bridge accommodates the length of the computing device, and in which the structural bridge provides a void, the void disposed between the first end of the structural bridge and the second end of the structural bridge, the void having right, left, upper, and lower sides, each side of the void communicating with a material of the structural bridge", "a structural bridge interposed between said first and second electronic game control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first electronic game control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second electronic game control module, said structural bridge still further comprising a retention mechanism, the retention mechanism providing at least a boss, an interaction of the spring member of the restraint with the boss of the retention mechanism couples the structural bridge to at least one of the first and the second electronic game control modules", or "a first means for attaching an input device to a computing device, said computing device provides a central processing unit and plurality of sides, each of the plurality of sides cooperating with the electronic display screen of said computing

device; and a second means for controlling a movement of a virtual object displayed on said electronic display screen of said computing device, said virtual object provided by an electronic game, said electronic game interacting with said central processing unit, and wherein said second means is accommodated by said input device".

As a result, in the Examiner's opinion, the present invention is not anticipated or made obvious over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON TAHAI YEN whose telephone number is (571)270-1777. The examiner can normally be reached on Mon - Fri 7am- 3pm PST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on 571-272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JASON T YEN/
Primary Examiner, Art Unit 3716

Notice of References Cited	Application/Control No. 16/230,186	Applicant(s)/Patent Under Reexamination Townley et al.	
	Examiner JASON T YEN	Art Unit 3715	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20160147359-A1	05-2016	Helmes; John Franciscus Marie	G06F3/0416	345/173
*	B	US-20150018101-A1	01-2015	Schoenith; John M.	A63F13/98	463/37
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 31

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/230,186	Townley et al.
	Examiner	Art Unit
	JASON T YEN	3715

CPC						
Symbol					Type	Version
A63F	/	13	/	24	F	2014-09-02
G06F	/	3	/	0219	I	2013-01-01
G06F	/	13	/	4022	I	2013-01-01
G06F	/	13	/	102	I	2013-01-01
A63F	/	13	/	2145	I	2014-09-02
A63F	/	13	/	31	I	2014-09-02
A63F	/	13	/	92	I	2014-09-02
A63F	/	9	/	24	I	2013-01-01
A63F	/	13	/	06	I	2013-01-01
A63F	/	13	/	08	I	2013-01-01
G06F	/	13	/	4068	I	2013-01-01
G06F	/	13	/	409	I	2013-01-01
G06F	/	1	/	1632	I	2013-01-01
G06F	/	1	/	1692	I	2013-01-01
A63F	/	13	/	23	I	2014-09-02
A63F	/	13	/	235	I	2014-09-02
A63F	/	13	/	98	I	2014-09-02
A63F	/	13	/	20	I	2014-09-02
A63F	/	13	/	50	I	2014-09-02
G06F	/	13	/	4027	I	2013-01-01
A63F	/	2009	/	2457	A	2013-01-01
A63F	/	2300	/	1043	A	2013-01-01
A63F	/	2300	/	204	A	2013-01-01

CPC Combination Sets							
Symbol					Type	Set	Ranking	Version
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	23	
/JASON T YEN/ Primary Examiner, Art Unit 3715	05 July 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	35, 43

U.S. Patent and Trademark Office — Part of Paper No.: 20190703A

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 32

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/230,186	Townley et al.
	Examiner	Art Unit
	JASON T YEN	3715

INTERNATIONAL CLASSIFICATION				
CLAIMED				
A63F	/	13	/	24

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	23	
/JASON T YEN/ Primary Examiner, Art Unit 3715	05 July 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	35, 43

U.S. Patent and Trademark Office — Part of Paper No.: 20190703A

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 33

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/230,186	Townley et al.
	Examiner	Art Unit
	JASON T YEN	3715

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☑ T.D. ☐ R.1.47

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	10	10	19	25										
2	2	11	11	20	26										
3	3	12	12	21	27										
4	4	13	13	22	28										
5	5	14	14	23	29										
6	6	15	15												
7	7	16	19												
8	8	17	23												
9	9	18	24												

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	23	
/JASON T YEN/ Primary Examiner, Art Unit 3715	05 July 2019	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	35, 43

U.S. Patent and Trademark Office Part of Paper No.: 20190703A

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 34

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/230,186	Townley et al.
	Examiner	Art Unit
	JASON T YEN	3715

CPC - Searched*		
Symbol	**Date**	**Examiner**
A63F 13/98, 2300/204, 405, 1018, 1043, 1075, 6045 (TEXT COMBINED).	07/05/2019	JY
G06F 1/1624, 1632, 1656, 1671, 3/0202 (TEXT COMBINED).	07/05/2019	JY
G07F 17/3218 (TEXT COMBINED).	07/05/2019	JY

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	**Date**	**Examiner**
INVENTOR SEARCH, EAST.	04/23/2019	JY
SEARCH HISTORY, EAST.	07/05/2019	JY

Interference Search			
US Class/CPC Symbol	**US Subclass/CPC Group**	**Date**	**Examiner**
A63F	13/24	07/05/2019	JY

/JASON T YEN/ Primary Examiner, Art Unit 3715	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 35

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L11	11	("2015/0205328").URPN.	USPAT	OR	ON	2019/07/05 07:14
L12	27	("2014/0274394").URPN.	USPAT	OR	ON	2019/07/05 07:14
L13	72	("2010/0081505").URPN.	USPAT	OR	ON	2019/07/05 07:14
L14	30	("2002/0155890").URPN.	USPAT	OR	ON	2019/07/05 07:14
L15	15	("2010/0277415").URPN.	USPAT	OR	ON	2019/07/05 07:14
L16	36	("2006/0252537").URPN.	USPAT	OR	ON	2019/07/05 07:14
L17	25185594	@ad<="20150202"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/07/05 07:15
L18	24894	17 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/07/05 07:15
L19	61	18 and (11 12 13 14 15 16)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/07/05 07:15
L20	58	19 and (remova$8 attach$8 detach$8)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/07/05 07:16
L21	47	19 and (remova$8 attach$8 detach$8) same (controller input)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/07/05 07:33
L22	2	(("20150018101") or ("20160147359")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/07/05 07:38
S1	9	(("TOWNLEY") near3 ("Fraser")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 06:50
S2	12	(("GAMBLE") near3 ("Kelly")).INV.	US-	OR	ON	2017/04/20

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 36

			PGPUB; USPAT; USOCR			06:50
S3	49	("20020155890" | "20030147008" | "20030231189" | "20040222970" | "20050255915" | "20050272471" | "20060291156" | "20070268247" | "20090209288" | "20090280863" | "20090291760" | "20100069160" | "20100081505" | "20100250815" | "20110076003" | "20110118022" | "20110143835" | "20110230178" | "20110249394" | "20110260969" | "20120108335" | "20120169597" | "20120236485" | "20120315989" | "20130120258" | "20130267322" | "20140274394" | "20150031452" | "20150205328" | "5967898" | "5976018" | "6290565" | "6710764" | "7200702" | "7298613" | "7653771" | "7733637" | "7746629" | "7758424" | "7774155" | "7818668" | "7933118" | "7942745" | "8018098" | "8100769" | "8100770" | "8180295" | "8188977" | "8192285").PN.	US-PGPUB; USPAT	OR	ON	2017/04/20 08:39
S4	22345460	@ad<="20111220"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:40
S5	25617307	@ad<="20170313"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:44
S6	24934293	@ad<="20150202"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:48
S7	40	S3 and S4	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:53
S8	49	S3 and S6	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:53
S11	35	S8 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 09:13
S12	1	("2015/0205328").URPN.	USPAT	OR	ON	2017/04/20 09:21
S13	2	("2014/0274394").URPN.	USPAT	OR	ON	2017/04/20 09:22

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 37

S14	44	("2010/0081505").URPN.	USPAT	OR	ON	2017/04/20 09:23
S15	14	("2002/0155890").URPN.	USPAT	OR	ON	2017/04/20 09:23
S16	9	(S12 S13 S14 S15) and S4	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 09:24
S17	24934293	@ad<="20150202"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:01
S18	25255010	@ad<="20150813"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:01
S19	24545	S18 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:02
S20	3178	S19 and (portable tablet mobile) same dock$3	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:05
S21	385	S19 and (portable tablet mobile) same dock$3 same controller	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:07
S22	14	S19 and (portable tablet mobile) same dock$3 same controller near10 (remov$5)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:07
S23	80	S19 and (portable tablet mobile) same dock$3 same (clip$5 confin$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:23
S24	45	S19 and (portable tablet mobile) same dock$3 near25 (clip$5 confin$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:23
S25	25255010	@ad<="20150813"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 14:56
S26	24545	S25 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR	US-PGPUB; USPAT; EPO;	OR	ON	2017/04/20 14:57

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 38

		A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	JPO			
S27	182	S26 and (portable tablet mobile) same dock$3 near25 expand$3	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:05
S28	701	S26 and (portable tablet mobile) same dock$3 near25 (extend$3 expand$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:06
S29	14	S26 and (portable tablet mobile) same dock$3 near25 (extend$3 expand$3) near20 size	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:06
S30	9	(("TOWNLEY") near3 ("Fraser")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 15:32
S31	12	(("GAMBLE") near3 ("Kelly")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 15:32
S32	21	S30 S31	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:32
S33	25255010	@ad<="20150813"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:25
S34	22345460	@ad<="20111220"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:26
S35	18193	S34 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:27
S36	135	S35 and (portable tablet mobile) same dock$3 same touch near3 (screen display)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:27
S37	0	S35 and (portable tablet mobile) same dock$3 same touch near3 (screen display) near10 back	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:28
S38	16	S35 and (portable tablet mobile) same dock$3 same touch near3 (screen display)	US-PGPUB;	OR	ON	2017/04/21 09:29

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 39

		same (exten$5 clip$4 hold$3)	USPAT; EPO; JPO			
S39	13	(("TOWNLEY") near3 ("Fraser")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/10/10 13:23
S40	16	(("GAMBLE") near3 ("Kelly")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/10/10 13:23
S41	5	(("9757649") or ("9592453") or ("9126119") or ("8944912") or ("9005026")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	OFF	2017/10/10 13:34
S42	51	("20020155890" | "20030147008" | "20030231189" | "20040222970" | "20050092590" | "20050227761" | "20050255915" | "20050272471" | "20060291156" | "20070054736" | "20070268247" | "20090209288" | "20090280863" | "20090291760" | "20100069160" | "20100081505" | "20100250815" | "20110076003" | "20110118022" | "20110143835" | "20110230178" | "20110249394" | "20110260969" | "20120108335" | "20120169597" | "20120236485" | "20120315989" | "20130120258" | "20130178285" | "4391444" | "5967898" | "5976018" | "6290565" | "6584382" | "6710764" | "7200702" | "7298613" | "7653771" | "7733637" | "7746629" | "7758424" | "7774155" | "7818668" | "7933118" | "7942745" | "8018098" | "8100769" | "8100770" | "8180295" | "8188977" | "8192285").PN.	US-PGPUB; USPAT	OR	ON	2017/10/10 13:36
S43	25025151	@ad<="20150202"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/10/10 13:48
S44	51	S42 and S43	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/10/10 13:48
S45	1	("9757649").PN.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	OFF	2017/10/23 13:04
S52	5	(("10159895") or ("9855498") or ("9757649") or ("10092830") or ("9839842")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 07:16
S53	23437017	@ad<="20130303"	US-PGPUB;	OR	ON	2019/04/23 10:41

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 40

			USPAT; EPO; JPO			
S54	5	(("10159895") or ("9855498") or ("9757649") or ("10092830") or ("9839842")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 10:58
S56	2	S54 and (structural same bridge same confinement).clm.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 11:00
S57	20959	S53 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 11:04
S58	23437017	@ad<="20130303"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 13:50
S59	20959	S58 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 13:50
S60	23437017	@ad<="20130303"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 14:54
S61	20959	S60 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 14:55
S62	10	("2015/0205328").URPN.	USPAT	OR	ON	2019/04/23 14:56
S63	25	("2014/0274394").URPN.	USPAT	OR	ON	2019/04/23 14:56
S64	70	("2010/0081505").URPN.	USPAT	OR	ON	2019/04/23 14:56
S65	29	("2002/0155890").URPN.	USPAT	OR	ON	2019/04/23 14:56
S66	27	S61 and (S62 S63 S64 S65)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 14:56
S67	35	("20020082042" | "20020151282" | "20020167491" | "20030073462" | "20040137983" | "20040195305" |	US-PGPUB; USPAT;	OR	ON	2019/04/23 14:59

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 41

		"20050078086" | "20060252537" | "20080096620" | "20080274776" | "20090111508" | "20100081505" | "20100110010" | "20100277415" | "20110230178" | "20110260969" | "20120091313" | "20120108335" | "20120189156" | "20130183899" | "6530838" | "6786826" | "7316618" | "7580728" | "7653771" | "8634873" | "D500319" | "D527005" | "D544481" | "D602096" | "D615131" | "D720342").PN. OR ("9138640").URPN.	USOCR			
S68	15	("20040195305" | "20060013411" | "20060280045" | "20080019082" | "20100081505" | "20120189156" | "5451053" | "6788528" | "6864798" | "7316618" | "7580728" | "D522999" | "D618287" | "D662505").PN. OR ("8480493").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2019/04/23 15:00
S69	21	S61 and (S67 S68)	US-PGPUB; USPAT; USOCR	OR	ON	2019/04/23 15:01
S70	1	(("15457571") or ("9757649")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 15:06
S71	5	(("10159895") or ("9855498") or ("9757649") or ("10092830") or ("9839842")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 15:07
S72	2	S71 and void	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 15:07

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L23	0	(sturcture same bridge same passageway).clm.	US-PGPUB; USPAT	OR	ON	2019/07/05 07:39
L24	21	(module same bridge same passageway).clm.	US-PGPUB; USPAT	OR	ON	2019/07/05 07:40
L25	1	(module same game same bridge same passageway).clm.	US-PGPUB; USPAT	OR	ON	2019/07/05 07:40
L27	4	(module same game same bridge same confin$8).clm.	US-PGPUB; USPAT	OR	ON	2019/07/05 07:40
S46	0	(computing same structure same link same passageway).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S47	0	(computing same structure same link same inputy).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S48	79	(computing same structure same link same input).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S49	1	(computing same structure same link same input same fastening).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S50	1	(computing same structure same input	US-PGPUB;	OR	ON	2017/10/23

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 42

		same fastening).clm.	USPAT			13:02
S51	1	(computing same structure same control same fastening).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:03

7/ 5/ 2019 7:46:12 AM
C:\ Users\ jyen\ Documents\ EAST\ Workspaces\ 16230186.wsp

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 43

Doc Code: DIST.E.FILE **Document Description: Electronic Terminal Disclaimer - Filed**	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	16230186
Filing Date	21-Dec-2018
First Named Inventor	Fraser Townley
Attorney Docket Number	OKC03962.2
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
Wikipad, Inc.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

9855498

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◯ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

◉ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES I certify, in accordance with 37 CFR 1.4(d)(4) that I am: ◉ An attorney or agent registered to practice before the Patent and Trademark Office who is of record in this application Registration Number 46369 ○ A sole inventor ○ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ○ A joint inventor; all of whom are signing this request	
Signature	/Daniel P. Dooley/
Name	Daniel P. Dooley

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 16230186

Filing Date: 21-Dec-2018

Applicant/Patent under Reexamination: Townley

Electronic Terminal Disclaimer filed on June 17, 2019

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Electronic Acknowledgement Receipt

EFS ID:	36319600
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Daniel Paul Dooley/Priscilla Anderson
Filer Authorized By:	Daniel Paul Dooley
Attorney Docket Number:	OKC03962.2
Receipt Date:	17-JUN-2019
Filing Date:	21-DEC-2018
Time Stamp:	15:32:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	32056 45315005e34f1f62d2a00094fc245282e4bea13c	no	2

Warnings:

Information:	
Total Files Size (in bytes):	32056

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Filed Electronically on June 17, 2019 *PATENT*
Dkt No. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Fraser Townley, Kelly D. Gamble and Daniel P. Dooley**
Assignee: **GAMEVICE, INC.**
Application No.: **16/230,186** Group No.: **3715**
Filed: **December 21, 2018** Examiner: **Jason Tahai Yen**
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

REPONSE TO NON-FINAL OFFICE ACTION
MAILED APRIL 26, 2019

Sir:

Please enter the following amendments in the above identified United States patent application.

Listing of the Claims begin on page 2.

Remarks being on page 15.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 49

Listing of the Claims:

This listing of claims is provided for convenience and replaces all prior versions and listing of claims in the application.

1. (Original) A combination comprising:

a computing device;

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the computing device;

a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge comprising a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and

a pair of electronic game control modules, each electronic game control module of the pair of electronic game control modules is secured to and

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 50

interacts with a corresponding confinement structure of the pair of confinement structures, each electronic game control module in electronic communication with the communication link of its corresponding confinement structure, wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge.

2. (Original) The combination of claim 1, in which the rigid structural bridge supports electronics associated with the computing device.

3. (Original) The combination of claim 2, in which the computing device further comprising a back, the back provides an internal surface, an external surface and cooperates with the at least two opposing sides of the computing device.

4. (Original) The combination of claim 3, in which the rigid structural bridge cooperates with the back of the computing device.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 51

5. (Original) The combination of claim 4, in which the rigid structural bridge cooperating with the back of the computing device is adjacent to the external surface of the back of the computing device.

6. (Original) The combination of claim 4, in which the computing device comprises an electronic display screen, and wherein at least one electronic game control module of the pair of electronic game control modules passes signals through its corresponding communication link to the computing device, the signals passed to the computing device controlling images displayed on the electronic display screen of the computing device.

7. (Original) The combination of claim 2, in which the electronics supported by the rigid structural bridge is a communication module associated with the computing device.

8. (Original) A combination comprising:

a structural bridge, the structural bridge having a first end associated with a first electronic game control module of a pair of electronic game control modules and a second end associated with a second electronic game control module of the pair of electronic game control modules, the structural bridge configured for adaptation to a computing device, the computing device having a length greater than its width, the structural bridge accommodates the length of the computing device,

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 52

and in which the structural bridge provides a void, the void disposed between the first end of the structural bridge and the second end of the structural bridge, the void having right, left, upper, and lower sides, each side of the void communicating with a material of the structural bridge.

9. (Original) The device of claim 8, in which the first of the pair of electronic game control modules further comprises a retention mechanism, a bottom cover, wherein the bottom cover provides a position guide, and in which the retention mechanism comprises:

an attachment boss communicating with the structural bridge;

an attachment support cooperating with the attachment boss, the attachment support in cooperation with the attachment boss secures the structural bridge, the structural bridge disposed between the attachment boss and the attachment support; and

a biasing structure communicating with the attachment support, the biasing structure provides tension between the structural bridge and the second of the pair of electronic game control modules.

10. (Original) The device of claim 9, in which the attachment support comprises a guide aperture interacting with the position guide, the interaction of the guide aperture with the position guide maintains alignment between the structural bridge and the second of the pair of electronic game control modules.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 53

11. (Original) The device of claim 9, in which at least one of the pair of electronic game control modules is a video game control module, and in which the video game control module passes signals to the computing device, the signals control images displayed on an electronic display screen of the computing device.

12. (Original) A combination comprising:

a first electronic game control module of a pair of electronic game control modules, and a second electronic game control module of the pair of electronic game control modules each the first and the second electronic game control modules includes at least a plurality of instructional input devices, and at least one of the first and the second electronic game control modules further comprising a restraint, the restraint providing at least a spring member; and

a structural bridge interposed between said first and second electronic game control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first electronic game control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second electronic game control module, said structural bridge still further comprising a retention mechanism, the retention mechanism providing at least a boss, an interaction of the spring member of the restraint with the boss of the retention mechanism

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 54

couples the structural bridge to at least one of the first and the second electronic game control modules.

13. (Original) The combination of claim 12, further comprising a computing device, the computing device comprising an upper, lower, left and right side, collectively the sides of the computing device, the computing device disposed between and in contact adjacency with each the first and second electronic game control modules of the pair of electronic game control modules, the pair of electronic game control modules engaging the computing device on at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, said pair of electronic game control modules are separate and distinct structures from the computing device.

14. (Original) The combination of claim 13, in which the structural bridge is a rigid structural bridge, the rigid structural bridge comprising a signal pathway, the signal pathway passes signals from each said first and second electronic game control modules.

15. (Original) The combination of claim 14, in which the computing device further comprising a back, the back provides an internal surface, an external surface, and upper, lower, left and right sides, collectively the sides of the back of the computing device, the back of the computing device cooperating with the sides of the

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 55

computing device, and in which the rigid structural bridge cooperates with the back of the computing device.

16 -18. (Canceled)

19. (Original) An apparatus comprising:

a first means for attaching an input device to a computing device, said computing device provides a central processing unit and plurality of sides, each of the plurality of sides cooperating with the electronic display screen of said computing device; and

a second means for controlling a movement of a virtual object displayed on said electronic display screen of said computing device, said virtual object provided by an electronic game, said electronic game interacting with said central processing unit, and wherein said second means is accommodated by said input device.

20 -22. (Canceled)

23. (Original) The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 56

the computing device, the at least two opposing sides adjacent the electronic display screen and define end points of the length of the computing device, the pair of confinement structures adapt to and are in pressing contact with said end points of the length of the computing device, each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the central processing unit;

a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge includes at least a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and

wherein the input device is a pair of control modules, each control module of the pair of control modules mechanically interacting with a corresponding confinement structure of the pair of confinement structures, wherein each control module is a separate and distinct structure from the pair of confinement structures, forming no structural portion of the pair of confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 57

the structural bridge, forming no structural portion of the structural bridge.

24. (Original) The apparatus of claim 23, in which the second means for controlling movement of the virtual object displayed on said electronic display comprising:

each control module of the pair of control modules is in electronic communication with the communication link of its corresponding confinement structure, each of the pair of control modules provides a plurality of instructional input devices, wherein said instructional input devices are adjacent each of the at least two opposing sides of the computing device, and wherein the instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

25. (Original) The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

the input device in electronic communication with the central processing unit, the input device providing a pair of control modules, the pair of control modules are adjacent to and confine the computing device on at least two opposing sides of the computing device, the at least two opposing sides adjacent the electronic display screen define end points of the

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 58

length of the computing device, the pair of control modules each adapt to and are in pressing contact with said opposing end points of the length of the computing device; and

a structural bridge, the structural bridge secures the pair of control modules one to the other, and wherein a first of the pair of control modules comprising a retention mechanism communicating with the structural bridge, and wherein the retention mechanism secures the structural bridge to the first of the pair of control modules, such that the structural bridge accommodates the length of the computing device, and in which the structural bridge provides a void in the mid-section of the structural bridge, the void having right, left, upper, and lower sides, each side communicating with a material of the structural bridge.

26. (Original) The apparatus of claim 25, in which the second means for controlling a movement of a virtual object displayed on said electronic display comprising:

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit, each of the pair of control modules provides instructional input devices, wherein said instructional input devices are adjacent each of the at least two opposing sides of the computing device, wherein the instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 59

display screen.

27. (Original) The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

the input device in electronic communication with the central processing unit of the computing device, the input device providing a pair of control modules a first control module of a pair of control modules, and a second control module of the pair of control modules, at least one of the first and the second control modules further comprising a fastening latch;

a structural bridge disposed between said first and second control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second control module, said structural bridge still further comprising a retention member, the retention member interacts with the fastening latch, the interaction of the fastening latch with the retention member restrains the structural bridge to a control module of the pair of control modules, and the pair of control modules to the computing device.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 60

28. (Original) The apparatus of claim 27, in which the second means for controlling a movement of the virtual object displayed on said electronic display comprising:

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit of the computing device; and

each the first and the second control modules of the pair of control modules comprising a plurality instructional input devices, and wherein the plurality of instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

29. (Previously presented) The apparatus of claim 19, in which the means for controlling the movement of the object displayed on the electronic display screen is provided by an input device, the input device comprises:

input module apertures, each input module aperture accepts either a game control module or a keyboard module as selected by a user, wherein said input module apertures are adjacent each of the at least two opposing sides of the plurality of sides of the computing device; and

a camera communicating with each the input device and the computing device, the camera capturing either still or video images as selected by the user, and in which the camera is responsive to at least the removable keyboard module when said keyboard module is operatively installed

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 61

by the user within the input module aperture, and in which the removable keyboard module is a pair of touch responsive electronic display screens, each of the touch responsive electronic display screens having at least the functionality of the electronic display screen, includes the functionality of a mouse pad, and presents virtual keys of a keyboard for information entry.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 62

Remarks:

This is responsive to the Office Action mailed April 26, 2019. The amendments are proper in that they do not add new matter, and they are entirely clarifying of the originally filed subject matter, not made for reason of overcoming a rejection over a cited reference and thereby entirely tangentially related to patentability.

Section 112 Claim Interpretation under 35 U.S.C. 112 (f)

Applicant concurs that independent claim 19, has been drafted under the provisions of 35 U.S.C 112 (f).

Provisional Obviousness type Double Patenting Rejection

Rejection of Claims 1, 8, 12 and 19 Under Provisional Nonstatutory Type Double Patenting Rejection

In the non-final Office Action mailed April 26, 2019, the Examiner rejected claims 1, 8, 12 and 19 under a non-statutory obviousness-type double patenting rejection as being unpatentable over claims 1-22 of US Patent No. 9,855,498.

In response to this rejection, the Applicant has included herewith a terminal disclaimer.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 63

Should any questions arise concerning this response, the Office is cordially invited to contact the below signed attorney.

Respectfully submitted,

By: /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 N. Broadway, Suite 2900
Oklahoma City, OK 73102-8820
Telephone No.: (405) 553-2828
Facsimile No.: (405) 553-2855
Customer No.: 33900

Electronic Patent Application Fee Transmittal

Application Number:	16230186
Filing Date:	21-Dec-2018
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Filer:	Daniel Paul Dooley/Priscilla Anderson
Attorney Docket Number:	OKC03962.2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
		Total in USD ($)		**160**

Electronic Acknowledgement Receipt	
EFS ID:	36319493
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Daniel Paul Dooley/Priscilla Anderson
Filer Authorized By:	Daniel Paul Dooley
Attorney Docket Number:	OKC03962.2
Receipt Date:	17-JUN-2019
Filing Date:	21-DEC-2018
Time Stamp:	15:27:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$160
RAM confirmation Number	061819INTEFSW15273800
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	2019-06-17-Transmittal.PDF	50866 282b971651e0969b87f66a611dfdb1331780569a	no	2
Warnings:					
Information:					
2		2019-06-17-Amendment.PDF	55819 191264a69073f0c3263be8410fae9e4cb43c7d3c	yes	16

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Claims	2	14
	Applicant Arguments/Remarks Made in an Amendment	15	16

Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30457 55cd16606b9d0c50e7af6c069e81912c3b483e8e	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	137142		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Practitioner's Docket No. OKC03962.2 ***PATENT***

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Fraser Townley, Kelly Gamble, Daniel P. Dooley**
Application No. **16/230,186**
Filed: **12/21/2018**
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

CERTIFICATE OF EFS SUBMISSION (CEFS)(37 C.F.R. § 1.8(a)(i)(1)(C))

I hereby certify that on June 17, 2019 the following correspondence is being submitted to the Patent and Trademark Office via the Office Electronic Filing System in accordance with § 1.6(a)(4):

Name of Paper:	Amendment and e-terminal disclaimer
No. of Pages:	19
Fees due:	Terminal disclaimer fee ($160.00)
Payment by:	Credit card via EFS-web

Priscilla M. Anderson
Signature

Telephone Number: 405-553-2828

Priscilla Anderson
Type or print name of person certifying

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 70

Filed Electronically on June 17, 2019 *PATENT*

Dkt. No. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Fraser Townley, Kelly Gamble, Daniel P. Dooley**
Assignee: **WIKIPAD, INC.**
Application No.: **16/230,186** Group No.: **3715**
Filed: **12/21/2018** Examiner: **JASON TAHAI YEN**
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL

1. Transmitted herewith is an amendment for this application.

2. Applicant is a small entity. A statement was already filed.

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

	(Col. 1)		(Col. 2) HIGHEST NO. PAID		(Col. 3)		SMALL ENTITY		
CLAIMS AFTER AMENDMENT			FOR		EXTRA		RATE		ADDIT. FEE
TOTAL	23	–	29	=	0	x	$ 40.00	=	$ 0.00
INDEP.	4	–	7	=	0	x	$ 210.00	=	$ 0.00
							Terminal disclaimer fee	=	$ 160.00
							TOTAL ADDIT. FEE DUE:		**$ 160.00**

5. Payment of $160 is being made by credit card via EFS-web. If an additional extension and/or fee is required by this paper, charge Account No. 506295.

Respectfully submitted,

Date: June 17, 2019 /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 North Broadway Avenue, Suite 2900
Oklahoma City, OK 73102
Office: (405) 553-2828
Customer No. 33900

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 16/230,186	Filing Date 12/21/2018	☐ To be Mailed

ENTITY: ☐ LARGE ☑ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).				
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))					
* If the difference in column 1 is less than zero, enter "0" in column 2.				TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
AMENDMENT	06/17/2019							
	Total (37 CFR 1.16(i))	* 23	Minus	** 29	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 4	Minus	*** 7	= 0		x $230 =	0
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	0

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/Ruby Johnson/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".	
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.	

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	12/21/2018	Fraser Townley	OKC03962.2	4427

33900 7590 04/26/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

EXAMINER	
YEN, JASON TAHAI	

ART UNIT	PAPER NUMBER
3715	

NOTIFICATION DATE	DELIVERY MODE
04/26/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@dockettrak.com
danderson@hallestill.com
okcipdocketing@hallestill.com

Office Action Summary	**Application No.** 16/230,186	**Applicant(s)** Townley et al.	
	Examiner JASON T YEN	**Art Unit** 3715	**AIA (FITF) Status** No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☑ Responsive to communication(s) filed on 3/29/19.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☑ Claim(s) 1-29 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☑ Claim(s) 1-29 is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☐ Claim(s) _____ are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☑ The drawing(s) filed on 12/21/18 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☑ Notice of References Cited (PTO-892)

2) ☑ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date 12/21/18.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☐ Other: _____.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 74

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

DETAILED ACTION

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 12/21/18 was acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Priority

3. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged. This application discloses and claims only subject matter disclosed in prior application no 15/858299, filed 12/29/17, prior application no 15/663171, filed 7/28/17, prior application no 15/663171, filed 3/13/17, and names the inventor or at least one joint inventor named in the prior application. Accordingly, this application constitutes a continuation. Furthermore, prior application no 15/663171 is a CIP of 14/840184, filed 8/31/15, prior application no 14/840184 is a CIP of 14/611804, filed 2/2/15, prior application no 14/611804 is a CIP of 13/779987, filed 2/28/13, prior application no 13/779987 is a CIP of 13/681153, filed 11/19/12, prior application no 13/681153 is a CIP of 13/494801, filed 6/12/12, which claims for domestic priority benefit of Provisional Application no 61/577709, filed 12/20/2011, is acknowledged.

Claim Interpretation

4. The following is a quotation of 35 U.S.C. 112(f):

> (f) Element in Claim for a Combination. – An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The following is a quotation of pre-AIA 35 U.S.C. 112, sixth paragraph:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

Claim limitation "a first means for attaching an input device to a computing device...a second means for controlling a movement of a virtual object displayed on said electronic display screen of said computing device..." has/have been interpreted under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, because it uses/they use a generic placeholder "means for" coupled with functional language "attaching...controlling…" without reciting sufficient structure to achieve the function. Furthermore, the generic placeholder is not preceded by a structural modifier.

Since the claim limitation(s) invokes 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, claim(s) 19 has/have been interpreted to cover the corresponding structure described in the specification that achieves the claimed function, and equivalents thereof.

A review of the specification shows that the following appears to be the corresponding structure described in the specification for the 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph limitation: Fig 35, 43-44, pages 23-25.

If applicant wishes to provide further explanation or dispute the examiner's interpretation of the corresponding structure, applicant must identify the corresponding structure with reference to the specification by page and line number, and to the drawing, if any, by reference characters in response to this Office action.

If applicant does not intend to have the claim limitation(s) treated under 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112 , sixth paragraph, applicant may amend the claim(s) so that it/they will clearly not invoke 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph, or present a sufficient showing that the claim recites/recite sufficient structure, material, or acts for performing the claimed function to preclude application of 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, sixth paragraph.

For more information, see MPEP § 2173 *et seq.* and *Supplementary Examination Guidelines for Determining Compliance With 35 U.S.C. 112 and for Treatment of Related Issues in Patent Applications*, 76 FR 7162, 7167 (Feb. 9, 2011).

Double Patenting

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140

F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1, 8, 12, 19 are rejected on the ground of nonstatutory double patenting as being unpatentable over claims 1-22 of U.S. Patent No. 9855498. Although the claims at issue are not identical, they are not patentably distinct from each other because claims 1, 8, 12, 19 of the present application are merely broader in scope than that of U.S. Patent No. 9855498. Therefore, U.S. Patent No. 9855498 “invention” meets the limitations of the instant application.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON TAHAI YEN whose telephone number is (571)270-1777. The examiner can normally be reached on Mon - Fri 7am- 3pm PST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at http://www.uspto.gov/interviewpractice.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dmitry Suhol can be reached on 571-272-4430. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JASON T YEN/
Primary Examiner, Art Unit 3716

Notice of References Cited	Application/Control No. 16/230,186	Applicant(s)/Patent Under Reexamination Townley et al.	
	Examiner JASON T YEN	Art Unit 3715	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-20150205328-A1	07-2015	Lin; Yin Yu	G06F1/1632	361/679.44
*	B	US-20140274394-A1	09-2014	Willis; Matthew	G06F1/1632	463/37
*	C	US-20100081505-A1	04-2010	Alten; Brett Gregory	G06F1/1632	463/36
*	D	US-20020155890-A1	10-2002	Ha, Dong-Kook	A63F13/06	463/36
*	E	US-20100277415-A1	11-2010	SHANMUGAM; Rajeev Rema	G06F1/1624	345/169
*	F	US-20060252537-A1	11-2006	Wu; Wen-An	A63F13/06	463/36
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 81

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	16/230,186	Townley et al.
	Examiner	Art Unit
	JASON T YEN	3715

CPC - Searched*		
Symbol	Date	Examiner
A63F 13/98, 2300/204, 405, 1018, 1043, 1075, 6045 (TEXT COMBINED).	04/23/2019	JY
G06F 1/1624, 1632, 1656, 1671, 3/0202 (TEXT COMBINED).	04/23/2019	JY
G07F 17/3218 (TEXT COMBINED).	04/23/2019	JY

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
INVENTOR SEARCH, EAST.	04/23/2019	JY
SEARCH HISTORY, EAST.	04/23/2019	JY

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/JASON T YEN/ Primary Examiner, Art Unit 3715	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 82

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	23437017	@ad<="20130303"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 14:54
L2	20959	1 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 14:55
L3	10	("2015/0205328").URPN.	USPAT	OR	ON	2019/04/23 14:56
L4	25	("2014/0274394").URPN.	USPAT	OR	ON	2019/04/23 14:56
L5	70	("2010/0081505").URPN.	USPAT	OR	ON	2019/04/23 14:56
L6	29	("2002/0155890").URPN.	USPAT	OR	ON	2019/04/23 14:56
L7	27	2 and (3 4 5 6)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 14:56
L8	35	("20020082042" | "20020151282" | "20020167491" | "20030073462" | "20040137983" | "20040195305" | "20050078086" | "20060252537" | "20080096620" | "20080274776" | "20090111508" | "20100081505" | "20100110010" | "20100277415" | "20110230178" | "20110260969" | "20120091313" | "20120108335" | "20120189156" | "20130183899" | "6530838" | "6786826" | "7316618" | "7580728" | "7653771" | "8634873" | "D500319" | "D527005" | "D544481" | "D602096" | "D615131" | "D720342").PN. OR ("9138640").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2019/04/23 14:59
L9	15	("20040195305" | "20060013411" | "20060280045" | "20080019082" | "20100081505" | "20120189156" | "5451053" | "6788528" | "6864798" | "7316618" | "7580728" | "D522999" | "D618287" | "D662505").PN. OR ("8480493").URPN.	US-PGPUB; USPAT; USOCR	OR	ON	2019/04/23 15:00
L10	21	2 and (8 9)	US-PGPUB; USPAT;	OR	ON	2019/04/23 15:01

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 83

			USOCR			
L11	1	(("15457571") or ("9757649")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 15:06
L12	5	(("10159895") or ("9855498") or ("9757649") or ("10092830") or ("9839842")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 15:07
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S1	9	(("TOWNLEY") near3 ("Fraser")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 06:50
S2	12	(("GAMBLE") near3 ("Kelly")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 06:50
S3	49	("20020155890" | "20030147008" | "20030231189" | "20040222970" | "20050255915" | "20050272471" | "20060291156" | "20070268247" | "20090209288" | "20090280863" | "20090291760" | "20100069160" | "20100081505" | "20100250815" | "20110076003" | "20110118022" | "20110143835" | "20110230178" | "20110249394" | "20110260969" | "20120108335" | "20120169597" | "20120236485" | "20120315989" | "20130120258" | "20130267322" | "20140274394" | "20150031452" | "20150205328" | "5967898" | "5976018" | "6290565" | "6710764" | "7200702" | "7298613" | "7653771" | "7733637" | "7746629" | "7758424" | "7774155" | "7818668" | "7933118" | "7942745" | "8018098" | "8100769" | "8100770" | "8180295" | "8188977" | "8192285").PN.	US-PGPUB; USPAT	OR	ON	2017/04/20 08:39
S4	22345460	@ad<="20111220"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:40
S5	25617307	@ad<="20170313"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:44
S6	24934293	@ad<="20150202"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:48
S7	40	S3 and S4	US-PGPUB;	OR	ON	2017/04/20 08:53

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 84

			USPAT; EPO; JPO			
S8	49	S3 and S6	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 08:53
S11	35	S8 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 09:13
S12	1	("2015/0205328").URPN.	USPAT	OR	ON	2017/04/20 09:21
S13	2	("2014/0274394").URPN.	USPAT	OR	ON	2017/04/20 09:22
S14	44	("2010/0081505").URPN.	USPAT	OR	ON	2017/04/20 09:23
S15	14	("2002/0155890").URPN.	USPAT	OR	ON	2017/04/20 09:23
S16	9	(S12 S13 S14 S15) and S4	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 09:24
S17	24934293	@ad<="20150202"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:01
S18	25255010	@ad<="20150813"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:01
S19	24545	S18 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:02
S20	3178	S19 and (portable tablet mobile) same dock$3	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:05
S21	385	S19 and (portable tablet mobile) same dock$3 same controller	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:07
S22	14	S19 and (portable tablet mobile) same dock$3 same controller near10 (remov$5)	US-PGPUB; USPAT; EPO;	OR	ON	2017/04/20 11:07

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 85

			JPO			
S23	80	S19 and (portable tablet mobile) same dock$3 same (clip$5 confin$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:23
S24	45	S19 and (portable tablet mobile) same dock$3 near25 (clip$5 confin$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 11:23
S25	25255010	@ad<="20150813"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 14:56
S26	24545	S25 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 14:57
S27	182	S26 and (portable tablet mobile) same dock$3 near25 expand$3	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:05
S28	701	S26 and (portable tablet mobile) same dock$3 near25 (extend$3 expand$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:06
S29	14	S26 and (portable tablet mobile) same dock$3 near25 (extend$3 expand$3) near20 size	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:06
S30	9	(("TOWNLEY") near3 ("Fraser")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 15:32
S31	12	(("GAMBLE") near3 ("Kelly")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/04/20 15:32
S32	21	S30 S31	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/20 15:32
S33	25255010	@ad<="20150813"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:25
S34	22345460	@ad<="20111220"	US-PGPUB; USPAT; EPO;	OR	ON	2017/04/21 09:26

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 86

			JPO			
S35	18193	S34 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:27
S36	135	S35 and (portable tablet mobile) same dock$3 same touch near3 (screen display)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:27
S37	0	S35 and (portable tablet mobile) same dock$3 same touch near3 (screen display) near10 back	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:28
S38	16	S35 and (portable tablet mobile) same dock$3 same touch near3 (screen display) same (exten$5 clip$4 hold$3)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/04/21 09:29
S39	13	(("TOWNLEY") near3 ("Fraser")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/10/10 13:23
S40	16	(("GAMBLE") near3 ("Kelly")).INV.	US-PGPUB; USPAT; USOCR	OR	ON	2017/10/10 13:23
S41	5	(("9757649") or ("9592453") or ("9126119") or ("8944912") or ("9005026")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO	OR	OFF	2017/10/10 13:34
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S43	25025151	@ad<="20150202"	US-PGPUB;	OR	ON	2017/10/10 13:48

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 87

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S44	51	S42 and S43	US-PGPUB; USPAT; EPO; JPO	OR	ON	2017/10/10 13:48
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S52	5	(("10159895") or ("9855498") or ("9757649") or ("10092830") or ("9839842")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 07:16
S53	23437017	@ad<="20130303"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 10:41
S54	5	(("10159895") or ("9855498") or ("9757649") or ("10092830") or ("9839842")).PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2019/04/23 10:58
S56	2	S54 and (structural same bridge same confinement).clm.	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 11:00
S57	20959	S53 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 11:04
S58	23437017	@ad<="20130303"	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 13:50
S59	20959	S58 AND ((G06F1/1632 OR G06F1/1656 OR G06F3/0202 OR G06F1/1624 OR G06F1/1671 OR A63F2300/1043 OR A63F2300/204 OR A63F13/98 OR A63F2300/6045 OR A63F2300/1018 OR A63F2300/1075 OR A63F2300/405 OR G07F17/3218).CPC.)	US-PGPUB; USPAT; EPO; JPO	OR	ON	2019/04/23 13:50

EAST Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S46	0	(computing same structure same link same passageway).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S47	0	(computing same structure same link same inputy).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 88

S48	79	(computing same structure same link same input).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S49	1	(computing same structure same link same input same fastening).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S50	1	(computing same structure same input same fastening).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:02
S51	1	(computing same structure same control same fastening).clm.	US-PGPUB; USPAT	OR	ON	2017/10/23 13:03

4/ 23/ 2019 3:09:58 PM
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Ex. 1009, IPR2023-00643, Pg. 89

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8180295		2012-05-15	Mao	
	2	7818668		2010-10-19	Michelstein, et al.	
	3	8100769		2012-01-24	Rabin	
	4	8100770		2012-01-24	Yamazaki, et al.	
	5	7942745		2011-05-17	Ikeda, et al.	
	6	6710764		2004-03-23	Burgel, et al.	
	7	7733637		2010-06-08	Lam	
	8	8018098		2011-09-13	Lu, et al.	

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /J.Y/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	9	7200702		2007-04-03	Keely, et al.	
	10	8188977		2012-05-29	Kuwaki, et al.	
	11	8192285		2012-06-05	Cheng, et al.	
	12	7774155		2010-08-10	Sato, et al.	
	13	7758424		2010-07-20	Riggs, et al.	
	14	7653771		2010-01-26	Liberty	
	15	6290565		2001-09-18	Galyean III, et al.	
	16	5976018		1999-11-02	Druckman	
	17	5967898		1999-10-19	Takasaka, et al.	
	18	7746629		2010-06-29	Assouad, et al.	
	19	7933118		2011-04-26	Chiu, et al.	

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 91

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	20	7298613		2007-11-20	Yin, et al.	
	21	4391444		1983-07-05	Bromley	
	22	6584382		2003-06-24	Karem	
	23	6512511		2003-01-28	Willner, et al.	
	24	6530838		2003-03-11	Ha, et al.	
	25	7833097		2010-11-16	Maddox, et al.	
	26	9114319		2015-08-25	Joynes, et al.	
	27	9176538		2015-11-03	Boulanger	
	28	9539507		2017-01-10	Schoenith, et al.	
	29	9711980		2017-07-18	Hodges, et al.	
	30	9778778		2017-10-03	Helmes, et al.	

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 92

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	31	8529357		2013-09-10	Joynes, et al.	

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U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090291760		2009-11-26	Hepburn, et al.	
	2	20090209288		2009-08-20	Rofougaran	
	3	20060291156		2006-12-28	Allen	
	4	20110260969		2011-10-27	Workman	
	5	20110118022		2011-05-19	Aronzon, et al.	
	6	20030231189		2003-12-18	Williams	
	7	20050272471		2005-12-08	Sherman	
	8	20120169597		2012-07-05	Liotta	

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	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	9	20030147008		2003-08-07	Liu	
	10	20120108335		2012-05-03	Liotta, et al.	
	11	20070268247		2007-11-22	Quatro	
	12	20110260969		2011-10-27	Workman	
	13	20040222970		2004-11-11	Martinez, et al.	
	14	20050255915		2005-11-17	Riggs, et al.	
	15	20090280863		2009-11-12	Shin, et al.	
	16	20100081505		2010-04-01	Alten, et al.	
	17	20110076003		2011-03-31	Cho, et al.	
	18	20110143835		2011-06-16	Sizelove	
	19	20110230178		2011-09-22	Jones, et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	20	20120315989		2012-12-13	Young, et al.	
	21	20020155890		2002-10-24	Ha, et al.	
	22	20100069160		2010-03-18	Barrett, et al.	
	23	20100250815		2010-09-30	Street, et al.	
	24	20120236485		2012-09-20	Staats, et al.	
	25	20050092590		2005-05-05	Sakou	
	26	20050227761		2005-10-13	Yoshino, et al.	
	27	20070054736		2007-03-08	See	
	28	20130178285		2013-07-11	Joynes, et al.	
	29	20110249394		2011-10-13	Nielsen, et al.	
	30	20130120258		2013-05-16	Maus	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	31	20020155890		2002-10-24	Ha, et al.	
	32	20050255915		2005-11-17	Riggs, et al.	
	33	20100081505		2010-04-01	Alten, et al.	
	34	20140274394		2014-09-18	Willis	
	35	20150205328		2015-07-14	Lin, et al.	
	36	20010045938		2001-11-29	Willner, et al.	
	37	20020155890		2002-10-24	Ha, et al.	
	38	20110075339		2011-03-31	Lam	
	39	20110260969		2011-10-27	Workman	
	40	20120058821		2012-03-08	Lan	
	41	20120271967		2012-10-25	Hirschman	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	42	20130095925		2013-04-18	Xu	
	43	20130341214		2013-12-26	King, et al.	
	44	20140364231		2014-12-11	Cramer, et al.	
	45	20140364232		2014-12-11	Cramer, et al.	
	46	20150134859		2015-05-14	Hirschman	
	47	20100195279		2010-08-05	MIchael	
	48	20150024844		2015-01-22	Mon Pere	
	49	20150273325		2015-10-01	Falc, et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	10-2011-0116892	KR		2011-10-26	Tae-Hyun Park		☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	2	2002-196859	JP		2002-07-12	Mitsumi Electric Co LTD		☐
	3	2003-018275	JP		2003-01-17	Hori Co LTD		☐
	4	201283220Y	CN		2008-10-07	Jing Hu		☐
	5	2014079264	WO		2014-05-30	Phonejoy Solutions Limited		☐
	6	2014201029	WO		2014-12-18	Bensussen Deutsch & Associates, Inc.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	CHARTIER; "Preorders begin for iPhone, iPod touch game controller." Published 2/8/2011; In Macworld website (online); http://www.macworld.com/article/1157741/icontrolpad.html; entire document especially page 1.	☐
	2	WATTANAJANTRA; "iControlPad unofficial iPhone gamepad coming soon." In c/net UK website (online); Published 8/27/2010; http://crave.cnet.co.uk/mobiles/icontrolpad-unofficial-iphone-gamepad-coming-soon-50000514; entire document, especially pages 3, 4.	☐
	3	Atari Arcade; Website Printout; http://atari.com/buy-games/arcade/atari-arcade-ipad; November 30, 2011; pages 1-3.	☐
	4	Ion iCade Arcade Cabinet; Website Printout; http://www.ionaudio.com/products/details/icade; 2012; pages 1-6.	☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	5	TURNER, TROY, "Gamepad for Tablets"; Yanko Design; article printout; http://www.yankodesign.com/2012/09/17/gamepad-for-tablets/; 2012; pages 1-7	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature	/JASON T YEN/	Date Considered	04/23/2019

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT **(Not for submission under 37 CFR 1.99)**	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel P. Dooley/	Date (YYYY-MM-DD)	2018-12-21
Name/Print	Daniel P. Dooley	Registration Number	46,369

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

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7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/230,186	12/21/2018	Fraser Townley	OKC03962.2

CONFIRMATION NO. 4427

33900
Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

PUBLICATION NOTICE



Title:GAME CONTROLLER WITH STRUCTURAL BRIDGE

Publication No.US-2019-0118082-A1
Publication Date:04/25/2019

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

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In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	12/21/2018	Fraser Townley	OKC03962.2	4427

33900 7590 03/29/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

EXAMINER	
HU, KANG	

ART UNIT	PAPER NUMBER
3717	

NOTIFICATION DATE	DELIVERY MODE
03/29/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Commissioner for Patents
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P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Doc Code: TRACK1.GRANT

Decision Granting Request for Prioritized Examination (Track I or After RCE)	Application No.: 16/230,186

The petition, filed February 19, 2019, requesting reconsideration of the decision, mailed January 22, 2019, which initially dismissed the Request for Prioritized Examination, Track 1, is **GRANTED**.

1. THE REQUEST FILED December 21, 2018 IS **GRANTED.**

The above-identified application has met the requirements for prioritized examination

A. ☒ for an original nonprovisional application (Track I).
B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination.** The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

A. filing a **petition for extension of time** to extend the time period for filing a reply;
B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims**, or a multiple dependent claim;
C. filing a **request for continued examination**;
D. filing a notice of appeal;
E. filing a request for suspension of action;
F. mailing of a notice of allowance;
G. mailing of a final Office action;
H. completion of examination as defined in 37 CFR 41.102; or
I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to Brian W. Brown at 571-272-5338.

/Brian W. Brown/
[*Signature*]

Petitions Examiner, Office of Petitions
(Title)

Filed Electronically on February 19, 2019 *PATENT*
DKT. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Fraser Townley, Kelly D. Gamble and Daniel P. Dooley**
Assignee: **GAMEVICE, INC.**
Application No.: **16/230,186** Group No.: **3716**
Filed: **December 21, 2018** Examiner: **Not yet known**
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

Mail Stop Petition
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

RULE 1.181 PETITION

Applicant respectfully requests the Director intervene in its request for reconsideration of prioritized examination.

Applicant filed a Request for Prioritized Examination for the above-referenced application on December 21, 2018. Applicant's Request for Prioritized Examination was dismissed on January 22, 2019 because the application was filed with more than four (4) independent claims. In response to the Decision Dismissing Request for Prioritized Examination mailed on January 22, 2019, Applicant has filed herewith a preliminary amendment cancelling three (3) independent claims and is requesting reconsideration of prioritized examination for the above-referenced application.

Conclusion

For these reasons, Applicant respectfully requests the Director intervene in its request for reconsideration of prioritized examination. The Office is encouraged to contact

the undersigned should any question arise concerning this response or anything else concerning this case.

Respectfully submitted,

By: /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 North Broadway Avenue, Suite 2900
Oklahoma City, OK 73102
Telephone: 405-553-2828
Fax: 405-553-2855
ddooley@hallestill.com
Customer No. 33900

Electronic Acknowledgement Receipt

EFS ID:	35184294
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Daniel Paul Dooley/Priscilla Anderson
Filer Authorized By:	Daniel Paul Dooley
Attorney Docket Number:	OKC03962.2
Receipt Date:	19-FEB-2019
Filing Date:	21-DEC-2018
Time Stamp:	12:17:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	2019-02-19-Transmittal.PDF	30755 4f2de6348a728648d42ea06f015485a276f39a98	no	2

Warnings:

Information:					
2		2019-02-19-PreliminaryAmendment.PDF	54445 fe3b8a1206211473bd181f5ee95034bccaa623d5	yes	15
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Preliminary Amendment		1	1	
	Claims		2	14	
	Applicant Arguments/Remarks Made in an Amendment		15	15	
Warnings:					
Information:					
3	Petition for review by the Office of Petitions	2019-02-19-Rule181Petition.PDF	22710 ea752ba2f54de2fc3dce0dcfd01b38a68f4e65c9	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	107910		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Practitioner's Docket No. OKC03962.2 ***PATENT***

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Fraser Townley, Kelly D. Gamble and Daniel P. Dooley
Application No.: 16/230,186
Filed: December 21, 2018
For: GAME CONTROLLER WITH STRUCTURAL BRIDGE

CERTIFICATE OF EFS SUBMISSION (CEFS)(37 C.F.R. § 1.8(a)(i)(1)(C))

I hereby certify that on February 19, 2019 the following correspondence is being submitted to the Patent and Trademark Office via the Office Electronic Filing System in accordance with § 1.6 (a)(4):

Name of Paper: Preliminary Amendment and 1.181 Petition Requesting Reconsideration of Prioritized Examination

No. of Pages: 19

Fees Due: None

/Priscilla Anderson/
Signature

Telephone Number: 405-553-2828

Priscilla Anderson
Type or print name of person certifying

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 109

Filed Electronically on February 19, 2019 *PATENT*

Dkt No. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Fraser Townley, Kelly D. Gamble and Daniel P. Dooley**
Assignee: **GAMEVICE, INC.**
Application No.: **16/230,186** Group No.: **3716**
Filed: **December 21, 2018** Examiner: **Not yet known**
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

AMENDMENT TRANSMITTAL

1. Transmitted herewith is a preliminary amendment for this application.

2. Applicant is a small entity. A statement was already filed.

3. The proceedings herein are for a patent application and the provisions of 37 C.F.R. 1.136 apply. Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.

4. The fee for claims (37 C.F.R. 1.16(b)-(d)) has been calculated as shown below:

	(Col. 1)		(Col. 2)		(Col. 3)		SMALL ENTITY			
	CLAIMS AFTER AMENDMENT		HIGHEST NO. PAID FOR		EXTRA		RATE		ADDIT. FEE	
TOTAL	23	–	29	=	0	x	$ 50.00	=	$	0.00
INDEP.	4	–	7	=	0	x	$ 230.00	=	$	0.00
					TOTAL ADDIT. FEE DUE:				**$**	**0.00**

5. If an additional fee is required by this paper, charge Account No. 506295.

Respectfully submitted,

Date: February 19, 2019 /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 North Broadway Avenue, Suite 2900
Oklahoma City, OK 73102
Telephone: (405) 553-2300
Customer No. 33900

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 110

Filed Electronically on February 19, 2019 *PATENT*
Dkt No. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: **Fraser Townley, Kelly D. Gamble and Daniel P. Dooley**
Assignee: **GAMEVICE, INC.**
Application No.: **16/230,186** Group No.: **3716**
Filed: **December 21, 2018** Examiner: **Not yet known**
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

Mail Stop Amendment
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Sir:

Please enter the following amendments in the above identified United States patent application.

Amendments to the Claims begin on page 2.

Remarks being on page 15.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 111

Amendments to and Listing of the Claims:

This listing of claims is provided for convenience and replaces all prior versions and listing of claims in the application.

1. (Original) A combination comprising:

a computing device;

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the computing device;

a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge comprising a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and

a pair of electronic game control modules, each electronic game control module of the pair of electronic game control modules is secured to and

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 112

interacts with a corresponding confinement structure of the pair of confinement structures, each electronic game control module in electronic communication with the communication link of its corresponding confinement structure, wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge.

2. (Original) The combination of claim 1, in which the rigid structural bridge supports electronics associated with the computing device.

3. (Original) The combination of claim 2, in which the computing device further comprising a back, the back provides an internal surface, an external surface and cooperates with the at least two opposing sides of the computing device.

4. (Original) The combination of claim 3, in which the rigid structural bridge cooperates with the back of the computing device.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 113

5. (Original) The combination of claim 4, in which the rigid structural bridge cooperating with the back of the computing device is adjacent to the external surface of the back of the computing device.

6. (Original) The combination of claim 4, in which the computing device comprises an electronic display screen, and wherein at least one electronic game control module of the pair of electronic game control modules passes signals through its corresponding communication link to the computing device, the signals passed to the computing device controlling images displayed on the electronic display screen of the computing device.

7. (Original) The combination of claim 2, in which the electronics supported by the rigid structural bridge is a communication module associated with the computing device.

8. (Original) A combination comprising:

a structural bridge, the structural bridge having a first end associated with a first electronic game control module of a pair of electronic game control modules and a second end associated with a second electronic game control module of the pair of electronic game control modules, the structural bridge configured for adaptation to a computing device, the computing device having a length greater than its width, the structural bridge accommodates the length of the computing device,

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 114

and in which the structural bridge provides a void, the void disposed between the first end of the structural bridge and the second end of the structural bridge, the void having right, left, upper, and lower sides, each side of the void communicating with a material of the structural bridge.

9. (Original) The device of claim 8, in which the first of the pair of electronic game control modules further comprises a retention mechanism, a bottom cover, wherein the bottom cover provides a position guide, and in which the retention mechanism comprises:

an attachment boss communicating with the structural bridge;

an attachment support cooperating with the attachment boss, the attachment support in cooperation with the attachment boss secures the structural bridge, the structural bridge disposed between the attachment boss and the attachment support; and

a biasing structure communicating with the attachment support, the biasing structure provides tension between the structural bridge and the second of the pair of electronic game control modules.

10. (Original) The device of claim 9, in which the attachment support comprises a guide aperture interacting with the position guide, the interaction of the guide aperture with the position guide maintains alignment between the structural bridge and the second of the pair of electronic game control modules.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 115

11. (Original) The device of claim 9, in which at least one of the pair of electronic game control modules is a video game control module, and in which the video game control module passes signals to the computing device, the signals control images displayed on an electronic display screen of the computing device.

12. (Original) A combination comprising:

a first electronic game control module of a pair of electronic game control modules, and a second electronic game control module of the pair of electronic game control modules each the first and the second electronic game control modules includes at least a plurality of instructional input devices, and at least one of the first and the second electronic game control modules further comprising a restraint, the restraint providing at least a spring member; and

a structural bridge interposed between said first and second electronic game control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first electronic game control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second electronic game control module, said structural bridge still further comprising a retention mechanism, the retention mechanism providing at least a boss, an interaction of the spring member of the restraint with the boss of the retention mechanism

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 116

couples the structural bridge to at least one of the first and the second electronic game control modules.

13. (Original) The combination of claim 12, further comprising a computing device, the computing device comprising an upper, lower, left and right side, collectively the sides of the computing device, the computing device disposed between and in contact adjacency with each the first and second electronic game control modules of the pair of electronic game control modules, the pair of electronic game control modules engaging the computing device on at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, said pair of electronic game control modules are separate and distinct structures from the computing device.

14. (Original) The combination of claim 13, in which the structural bridge is a rigid structural bridge, the rigid structural bridge comprising a signal pathway, the signal pathway passes signals from each said first and second electronic game control modules.

15. (Original) The combination of claim 14, in which the computing device further comprising a back, the back provides an internal surface, an external surface, and upper, lower, left and right sides, collectively the sides of the back of the computing device, the back of the computing device cooperating with the sides of the

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 117

computing device, and in which the rigid structural bridge cooperates with the back of the computing device.

16 -18. (Canceled)

19. (Original) An apparatus comprising:

a first means for attaching an input device to a computing device, said computing device provides a central processing unit and plurality of sides, each of the plurality of sides cooperating with the electronic display screen of said computing device; and

a second means for controlling a movement of a virtual object displayed on said electronic display screen of said computing device, said virtual object provided by an electronic game, said electronic game interacting with said central processing unit, and wherein said second means is accommodated by said input device.

20 -22. (Canceled)

23. (Original) The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 118

the computing device, the at least two opposing sides adjacent the electronic display screen and define end points of the length of the computing device, the pair of confinement structures adapt to and are in pressing contact with said end points of the length of the computing device, each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the central processing unit;

a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge includes at least a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and

wherein the input device is a pair of control modules, each control module of the pair of control modules mechanically interacting with a corresponding confinement structure of the pair of confinement structures, wherein each control module is a separate and distinct structure from the pair of confinement structures, forming no structural portion of the pair of confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 119

the structural bridge, forming no structural portion of the structural bridge.

24. (Original) The apparatus of claim 23, in which the second means for controlling movement of the virtual object displayed on said electronic display comprising:

each control module of the pair of control modules is in electronic communication with the communication link of its corresponding confinement structure, each of the pair of control modules provides a plurality of instructional input devices, wherein said instructional input devices are adjacent each of the at least two opposing sides of the computing device, and wherein the instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

25. (Original) The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

the input device in electronic communication with the central processing unit, the input device providing a pair of control modules, the pair of control modules are adjacent to and confine the computing device on at least two opposing sides of the computing device, the at least two opposing sides adjacent the electronic display screen define end points of the

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 120

length of the computing device, the pair of control modules each adapt to and are in pressing contact with said opposing end points of the length of the computing device; and

a structural bridge, the structural bridge secures the pair of control modules one to the other, and wherein a first of the pair of control modules comprising a retention mechanism communicating with the structural bridge, and wherein the retention mechanism secures the structural bridge to the first of the pair of control modules, such that the structural bridge accommodates the length of the computing device, and in which the structural bridge provides a void in the mid-section of the structural bridge, the void having right, left, upper, and lower sides, each side communicating with a material of the structural bridge.

26. (Original) The apparatus of claim 25, in which the second means for controlling a movement of a virtual object displayed on said electronic display comprising:

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit, each of the pair of control modules provides instructional input devices, wherein said instructional input devices are adjacent each of the at least two opposing sides of the computing device, wherein the instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 121

display screen.

27. (Original) The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

the input device in electronic communication with the central processing unit of the computing device, the input device providing a pair of control modules a first control module of a pair of control modules, and a second control module of the pair of control modules, at least one of the first and the second control modules further comprising a fastening latch;

a structural bridge disposed between said first and second control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second control module, said structural bridge still further comprising a retention member, the retention member interacts with the fastening latch, the interaction of the fastening latch with the retention member restrains the structural bridge to a control module of the pair of control modules, and the pair of control modules to the computing device.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 122

28. (Original) The apparatus of claim 27, in which the second means for controlling a movement of the virtual object displayed on said electronic display comprising:

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit of the computing device; and

each the first and the second control modules of the pair of control modules comprising a plurality instructional input devices, and wherein the plurality of instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

29. (Currently amended) The apparatus of claim ~~18~~ 19, in which the means for controlling the movement of the object displayed on the electronic display screen is provided by an input device, the input device comprises:

input module apertures, each input module aperture accepts either a game control module or a keyboard module as selected by a user, wherein said input module apertures are adjacent each of the at least two opposing sides of the plurality of sides of the computing device; and

a camera communicating with each the input device and the computing device, the camera capturing either still or video images as selected by the user, and in which the camera is responsive to at least the removable keyboard module when said keyboard module is operatively installed

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 123

by the user within the input module aperture, and in which the removable keyboard module is a pair of touch responsive electronic display screens, each of the touch responsive electronic display screens having at least the functionality of the electronic display screen, includes the functionality of a mouse pad, and presents virtual keys of a keyboard for information entry.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 124

Remarks:

This Preliminary Amendment is provided responsive to a Decision on Petition mailed January 22, 2019 which denied the request for Track I processing for the present application. The basis of the denial was that the application was filed with more than the allotted four (4) independent claims.

In response, amendments have been presented above to cancel claims 16-18 and 20-22. Dependent claim 29 has been amended to now depend from independent claim 19. These amendments are supported by the language of the originally presented claims. With these amendments, there are now a total of twenty-three (23) claims pending in the application, of which four (4) are independent (claims 1, 8, 12 and 19).

It is believed that these amendments cure the deficiencies noted in the Decision on Petition. Reconsideration and grant of the petition are respectfully requested.

Should any questions arise concerning this response, the Office is cordially invited to contact the below signed attorney.

Respectfully submitted,

By: /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 N. Broadway, Suite 2900
Oklahoma City, OK 73102-8820
Telephone No.: (405) 553-2828
Facsimile No.: (405) 553-2855
Customer No.: 33900

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 125

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/230,186	12/21/2018	3716	2155	OKC03962.2	29	7

CONFIRMATION NO. 4427

REPLACEMENT FILING RECEIPT

33900
Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820



Date Mailed: 02/15/2019

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Fraser Townley, Pembroke, MA;
Kelly Gamble, Simi Valley, CA;
Daniel P. Dooley, Oklahoma City, OK;

Applicant(s)

Wikipad, Inc,, Simi Valley, CA;

Power of Attorney: The patent practitioners associated with Customer Number 33900

Domestic Priority data as claimed by applicant

This application is a CON of 15/858,299 12/29/2017 PAT 10159895
which is a CON of 15/663,171 07/28/2017 PAT 9855498
which is a CON of 15/457,571 03/13/2017 PAT 9757649
which is a CIP of 14/840,184 08/31/2015 PAT 9592453
which is a CIP of 14/611,804 02/02/2015 PAT 9126119
which is a CIP of 13/779,987 02/28/2013 PAT 8529357
which is a CIP of 13/681,153 11/19/2012 PAT 8944912
which is a CIP of 13/494,801 06/12/2012 PAT 9005026
which claims benefit of 61/577,709 12/20/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 126

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 01/17/2019
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/230,186**
Projected Publication Date: 04/25/2019
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

GAME CONTROLLER WITH STRUCTURAL BRIDGE

Preliminary Class

463

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative,

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 127

this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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Title 37, Code of Federal Regulations, 5.11 & 5.15

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The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/230,186	12/21/2018	Fraser Townley	OKC03962.2

CONFIRMATION NO. 4427

33900
Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

POA ACCEPTANCE LETTER

OC000000105949465

Date Mailed: 02/15/2019

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 02/13/2019.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ltaba/

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Doc Code: PA..
Document Description: Power of Attorney

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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	16/230,186
Filing Date	December 21, 2018
First Named Inventor	Fraser Townley
Title	GAME CONTROLLER WITH STRUCTURAL BRIDGE
Art Unit	
Examiner Name	
Attorney Docket Number	OKC03962.2

SIGNATURE of Applicant or Patent Practitioner

Signature	/Daniel P. Dooley/	Date (Optional)	Feb. 13, 2019
Name	Daniel P. Dooley	Registration Number	46369
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
16/230,186	December 21, 2018

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 33900

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Wikipad, Inc.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	Olympia Chu	Date (Optional)	07/14/2017
Name	Olympia Chu		
Title	Wikipad, Inc. - Chief Financial Officer		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Electronic Patent Application Fee Transmittal

Application Number:	16230186
Filing Date:	21-Dec-2018
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Filer:	Daniel Paul Dooley/Priscilla Anderson
Attorney Docket Number:	OKC03962.2

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**70**

Electronic Acknowledgement Receipt	
EFS ID:	35134803
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Daniel Paul Dooley/Priscilla Anderson
Filer Authorized By:	Daniel Paul Dooley
Attorney Docket Number:	OKC03962.2
Receipt Date:	13-FEB-2019
Filing Date:	21-DEC-2018
Time Stamp:	10:57:09
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$70
RAM confirmation Number	021319INTEFSW10592700
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	2019-02-13-CorrectedADS.PDF	4876993 0880267a8e06b480e2deb05a923dad3458 2f7a82	no	9
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2	Assignee showing of ownership per 37 CFR 3.73	2019-02-13-AssigneeStatement.PDF	123924 fbb3e97d1710be8d1f30d9491af3fedc05f0 6d2a	no	2
Warnings:					
Information:					
3	Power of Attorney	2019-02-13-POA.PDF	676578 b1da4d46e1660731a1b2a83a0c05b4d96f2 0ea40	no	2
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30462 5041f64a27153d21a18ddf4b30ccdb19517 289eb	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	5707957		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Fraser		Townley	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Pembroke	State/Province	MA	Country of Residence	US

Mailing Address of Inventor:

Address 1	247 Taylor Street		
Address 2			
City	Pembroke	State/Province	MA
Postal Code	02359	Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kelly		Gamble	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Simi Valley	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	653 Warrendale Ave.		
Address 2			
City	Simi Valley	State/Province	CA
Postal Code	93065	Country	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Daniel	P.	Dooley	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

City	Oklahoma City	State/Province	OK	Country of Residence	US

Mailing Address of Inventor:

Address 1	13009 Green Valley Dr.		
Address 2			
City	Oklahoma City	State/Province	OK
Postal Code	73120	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	33900		
Email Address	ddooley@hallestill.com	Add Email	Remove Email

Application Information:

Title of the Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE		
Attorney Docket Number	OKC03962.2	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	40	Suggested Figure for Publication (if any)	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(•) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	33900		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16230186	Continuation of	15858299	2017-12-29	10159895	2018-12-25
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15858299	Continuation of	16553171	2017-07-28	9855498	2018-01-02
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
16553171	Continuation of	15457571	2017-03-13	9757649	2017-09-12
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15457571	Continuation in part of	14840184	2015-08-31	9592453	2017-03-14
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14840184	Continuation in part of	14611804	2015-02-02	9126119	2015-09-08
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14611804	Continuation in part of	13779987	2013-02-28	8529357	2013-09-10

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Ex. 1009, IPR2023-00643, Pg. 140

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13779987	Continuation in part of	13681153	2012-11-19	8944912	2015-02-03
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13681153	Continuation in part of	13494801	2012-06-12	9005026	2015-04-14
Prior Application Status	Expired		Remove		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
13494801	Claims benefit of provisional	61577709	2011-12-20		

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. [x]

Organization Name	~~Gamevice, Inc.~~ Wikipad, Inc.		
Mailing Address Information For Applicant:			
Address 1	685 Cochran Street		
Address 2			
City	Simi Valley	**State/Province**	CA
Country	US	Postal Code	93065
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Daniel P. Dooley/			Date (YYYY-MM-DD)	2019-02-13
First Name	Daniel	Last Name	Dooley	Registration Number	46,369

Additional Signature may be generated within this form by selecting the Add button.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	16/230,186
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 145

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Fraser Townley, Kelly Gamble and Daniel P. Dooley

Application No./Patent No.: 16/230,186 Filed/Issue Date: Dec. 21, 2018

Titled: GAME CONTROLLER WITH STRUCTURAL BRIDGE

Wikipad, Inc., a corporation

(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☑ The assignee of the entire right, title, and interest.

2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):

   ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.

   ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

   Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (*e.g.*, bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

A. ☑ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 047844, Frame 0771, or for which a copy thereof is attached.

B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

   The document was recorded in the United States Patent and Trademark Office at

   Reel _____, Frame _____, or for which a copy thereof is attached.

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

PTO/AIA/96 (08-12)
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STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☑ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Daniel P. Dooley/	Feb. 13, 2019
Signature	Date
Daniel P. Dooley	46,369
Printed or Typed Name	Title or Registration Number

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/230,186	12/21/2018	Fraser Townley	OKC03962.2	4427

33900 7590 01/22/2019

Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

EXAMINER	
ART UNIT	PAPER NUMBER
3716	

NOTIFICATION DATE	DELIVERY MODE
01/22/2019	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTO@dockettrak.com
danderson@hallestill.com
okcipdocketing@hallestill.com

Decision Dismissing Request for Prioritized Examination (Track I)	**Application No.** 16/230,186	**Applicant(s)** Townley et al.	
	Examiner BRIAN W BROWN	**Art Unit** OPET	**AIA Status** No

1. THE REQUEST FILED 21 December 2018 IS **DISMISSED** BECAUSE:

A. ☐ The application is not a utility application under 35 U.S.C. 111(a) filed by EFS-Web or a plant application under 35 U.S.C. 111(a) filed by paper:
   i. ☐ The application is a utility application that was not filed by EFS-Web.
   ii. ☐ The application is neither a utility application nor a plant application, but rather is a _____ , which is excluded from the Track I program.

B. ☐ The request was not filed with the application or on the same date of the application.

C. ☐ One or more of the following fees were not filed with the application:
   i. ☐ Basic filing fee, as set forth in 37 CFR 1.16(a), or for a plant application, 37 CFR 1.16(c).
   ii. ☐ Search fee, as set forth in 37 CFR 1.16(k), or for a plant application, 37 CFR 1.16(m).
   iii. ☐ Examination fee, as set forth in 37 CFR 1.16(o), or for a plant application, 37 CFR 1.16(q).
   iv. ☐ Publication fee, as set forth in 37 CFR 1.18(d).
   v. ☐ Track I processing fee, as set forth in 37 CFR 1.17(i).
   vi. ☐ Track I prioritized examination fee, as set forth in 37 CFR 1.17(c).
   vii. ☐ Application size fee, due because the specification and drawings exceed 100 sheets of paper, as set forth in 37 CFR 1.16(s).
   viii. ☐ Excess independent claim fee, due because the number of independent claims exceeds three, as set forth in 37 CFR 1.16(h).
   ix. ☐ Excess claim fee, due because the number of claims exceeds twenty, as set forth in 37 CFR 1.16(i).

D. ☐ The application is not complete under 37 CFR 1.51(b) because the executed inventor's oath or declaration was not filed with the application.

E. ☑ The application contains or has been amended to contain:
   i. ☑ More than four independent claims.
   ii. ☐ More than thirty total claims.
   iii. ☐ One or more multiple dependent claims.

F. ☐ The Track I program has exceeded its limit of 10,000 requests for the current fiscal year.

G. ☐ Other: _____

2. CONCLUSION

☑ **ALL of the above defect(s) consist only of one or more of items E (i-iii). Applicant is hereby accorded a non-extendable ONE MONTH time period from the mailing date of this Decision to (1) correct the subject defect(s) and (2) file a petition under 37 CFR 1.181 requesting reconsideration of prioritized examination. If no such petition is timely filed, the application will not undergo prioritized examination.**

- OR -

☐ **The application will not undergo prioritized examination, because the request was not accompanied by all of the required items.**

Telephone inquiries with regard to this decision should be directed to BRIAN BROWN at (571)272-5338 . In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/BRIAN W BROWN/ Petitions Examiner, OPET	

U.S. Patent and Trademark Office
PTO-2299 (Rev. 01-2014)

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
16/230,186	12/21/2018	Fraser Townley	OKC03962.2

CONFIRMATION NO. 4427

IMPROPER CPOA LETTER

33900
Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

OC000000105193962

Date Mailed: 01/18/2019

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 12/21/2018. The power of attorney in this application is not accepted for the reason(s) listed below:

- The power of attorney has not been accepted because the party who is giving power has not been identified. Power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A party who is not the applicant must become the applicant in accordance with 37 CFR 1.46(c) and appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. For a reissue application, reexamination proceeding, or supplemental examination proceeding, a patent owner who was not the applicant under 37 CFR 1.46 must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).

/lvongxay/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 151

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/230,186

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	29 minus 20 =	* 9	x 50 =	450	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	7 minus 3 =	* 4	x 230 =	920			
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	2155		TOTAL	

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)	OR	RATE($)	ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/230,186	12/21/2018		2155	OKC03962.2	29	7

CONFIRMATION NO. 4427

FILING RECEIPT

33900
Hall Estill Attorneys at Law
(MDMMY)
100 NORTH BROADWAY
SUITE 2900
OKLAHOMA CITY, OK 73102-8820

OC000000105173354

Date Mailed: 01/18/2019

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Fraser Townley, Pembroke, MA;
Kelly Gamble, Simi Valley, CA;
Daniel P. Dooley, Oklahoma City, OK;

Applicant(s)

Gamevice, Inc,, Simi Valley, CA;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 15/858,299 12/29/2017 PAT 10159895
which is a CON of 15/663,171 07/28/2017 PAT 9855498
which is a CON of 15/457,571 03/13/2017 PAT 9757649
which is a CIP of 14/840,184 08/31/2015 PAT 9592453
which is a CIP of 14/611,804 02/02/2015 PAT 9126119
which is a CIP of 13/779,987 02/28/2013 PAT 8529357
which is a CIP of 13/681,153 11/19/2012 PAT 8944912
which is a CIP of 13/494,801 06/12/2012 PAT 9005026
which claims benefit of 61/577,709 12/20/2011

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 153

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 01/17/2019
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/230,186**
Projected Publication Date: 04/25/2019
Non-Publication Request: No
Early Publication Request: No
**** SMALL ENTITY ****
Title

GAME CONTROLLER WITH STRUCTURAL BRIDGE

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 154

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 155

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Ex. 1009, IPR2023-00643, Pg. 156

COPY

Filed Electronically on December 21, 2018 *PATENT*
DKT. NO. OKC03962.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **Fraser Townley, Kelly D. Gamble and Daniel P. Dooley**
Application No.: **15/858,299** Group No.: 3716
Filed: **Dec. 29, 2017** Examiner: Jason Tahai Yen
For: **GAME CONTROLLER WITH STRUCTURAL BRIDGE**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

NOTIFICATION OF FILING OF CONTINUING, DIVISIONAL OR CONTINUED PROSECUTION APPLICATION

Notification is hereby being made of the filing a continuation application for this case concurrently herewith.

Respectfully submitted,

Date: December 21, 2018 /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys At Law
100 North Broadway, Suite 2900
Oklahoma City, OK 73102
Telephone: 405-553-2828
Fax: 405-553-2855
Customer No. 33900

Electronic Acknowledgement Receipt	
EFS ID:	34677185
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Correspondence Address:	Hall Estill Attorneys at Law (MDMMY) 100 NORTH BROADWAY SUITE 2900 OKLAHOMA CITY OK 73102-8820 US 405-553-2828 USPTO@dockettrak.com
Filer:	Daniel Paul Dooley/Priscilla Anderson
Filer Authorized By:	Daniel Paul Dooley
Attorney Docket Number:	OKC03962.2
Receipt Date:	21-DEC-2018
Filing Date:	
Time Stamp:	15:57:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Miscellaneous Incoming Letter	2018-12-21-NtcFilingCont-COPY.PDF	32574 6e0d4b3456e0041df40864e31756d475dac67971	no	1
Warnings:					
Information:					
		Total Files Size (in bytes):	32574		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (01-10)
Approved for use through 07/31/2012. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (**Not for submission under 37 CFR 1.99**)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

U.S.PATENTS						
Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	8180295		2012-05-15	Mao	
	2	7818668		2010-10-19	Michelstein, et al.	
	3	8100769		2012-01-24	Rabin	
	4	8100770		2012-01-24	Yamazaki, et al.	
	5	7942745		2011-05-17	Ikeda, et al.	
	6	6710764		2004-03-23	Burgel, et al.	
	7	7733637		2010-06-08	Lam	
	8	8018098		2011-09-13	Lu, et al.	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 160

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	9	7200702		2007-04-03	Keely, et al.	
	10	8188977		2012-05-29	Kuwaki, et al.	
	11	8192285		2012-06-05	Cheng, et al.	
	12	7774155		2010-08-10	Sato, et al.	
	13	7758424		2010-07-20	Riggs, et al.	
	14	7653771		2010-01-26	Liberty	
	15	6290565		2001-09-18	Galyean III, et al.	
	16	5976018		1999-11-02	Druckman	
	17	5967898		1999-10-19	Takasaka, et al.	
	18	7746629		2010-06-29	Assouad, et al.	
	19	7933118		2011-04-26	Chiu, et al.	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 161

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	20	7298613		2007-11-20	Yin, et al.	
	21	4391444		1983-07-05	Bromley	
	22	6584382		2003-06-24	Karem	
	23	6512511		2003-01-28	Willner, et al.	
	24	6530838		2003-03-11	Ha, et al.	
	25	7833097		2010-11-16	Maddox, et al.	
	26	9114319		2015-08-25	Joynes, et al.	
	27	9176538		2015-11-03	Boulanger	
	28	9539507		2017-01-10	Schoenith, et al.	
	29	9711980		2017-07-18	Hodges, et al.	
	30	9778778		2017-10-03	Helmes, et al.	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 162

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	31	8529357		2013-09-10	Joynes, et al.	

If you wish to add additional U.S. Patent citation information please click the Add button.

U.S.PATENT APPLICATION PUBLICATIONS

Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090291760		2009-11-26	Hepburn, et al.	
	2	20090209288		2009-08-20	Rofougaran	
	3	20060291156		2006-12-28	Allen	
	4	20110260969		2011-10-27	Workman	
	5	20110118022		2011-05-19	Aronzon, et al.	
	6	20030231189		2003-12-18	Williams	
	7	20050272471		2005-12-08	Sherman	
	8	20120169597		2012-07-05	Liotta	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 163

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	9	20030147008		2003-08-07	Liu	
	10	20120108335		2012-05-03	Liotta, et al.	
	11	20070268247		2007-11-22	Quatro	
	12	20110260969		2011-10-27	Workman	
	13	20040222970		2004-11-11	Martinez, et al.	
	14	20050255915		2005-11-17	Riggs, et al.	
	15	20090280863		2009-11-12	Shin, et al.	
	16	20100081505		2010-04-01	Alten, et al.	
	17	20110076003		2011-03-31	Cho, et al.	
	18	20110143835		2011-06-16	Sizelove	
	19	20110230178		2011-09-22	Jones, et al.	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 164

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	20	20120315989		2012-12-13	Young, et al.	
	21	20020155890		2002-10-24	Ha, et al.	
	22	20100069160		2010-03-18	Barrett, et al.	
	23	20100250815		2010-09-30	Street, et al.	
	24	20120236485		2012-09-20	Staats, et al.	
	25	20050092590		2005-05-05	Sakou	
	26	20050227761		2005-10-13	Yoshino, et al.	
	27	20070054736		2007-03-08	See	
	28	20130178285		2013-07-11	Joynes, et al.	
	29	20110249394		2011-10-13	Nielsen, et al.	
	30	20130120258		2013-05-16	Maus	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 165

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	31	20020155890		2002-10-24	Ha, et al.	
	32	20050255915		2005-11-17	Riggs, et al.	
	33	20100081505		2010-04-01	Alten, et al.	
	34	20140274394		2014-09-18	Willis	
	35	20150205328		2015-07-14	Lin, et al.	
	36	20010045938		2001-11-29	Willner, et al.	
	37	20020155890		2002-10-24	Ha, et al.	
	38	20110075339		2011-03-31	Lam	
	39	20110260969		2011-10-27	Workman	
	40	20120058821		2012-03-08	Lan	
	41	20120271967		2012-10-25	Hirschman	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	42	20130095925		2013-04-18	Xu	
	43	20130341214		2013-12-26	King, et al.	
	44	20140364231		2014-12-11	Cramer, et al.	
	45	20140364232		2014-12-11	Cramer, et al.	
	46	20150134859		2015-05-14	Hirschman	
	47	20100195279		2010-08-05	MIchael	
	48	20150024844		2015-01-22	Mon Pere	
	49	20150273325		2015-10-01	Falc, et al.	

If you wish to add additional U.S. Published Application citation information please click the Add button.

FOREIGN PATENT DOCUMENTS

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] ¡	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	10-2011-0116892	KR		2011-10-26	Tae-Hyun Park		☐

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Ex. 1009, IPR2023-00643, Pg. 167

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	2	2002-196859	JP		2002-07-12	Mitsumi Electric Co LTD		☐
	3	2003-018275	JP		2003-01-17	Hori Co LTD		☐
	4	201283220Y	CN		2008-10-07	Jing Hu		☐
	5	2014079264	WO		2014-05-30	Phonejoy Solutions Limited		☐
	6	2014201029	WO		2014-12-18	Bensussen Deutsch & Associates, Inc.		☐

If you wish to add additional Foreign Patent Document citation information please click the Add button

NON-PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	CHARTIER; "Preorders begin for iPhone, iPod touch game controller." Published 2/8/2011; In Macworld website (online); http://www.macworld.com/article/1157741/icontrolpad.html; entire document especially page 1.	☐
	2	WATTANAJANTRA; "iControlPad unofficial iPhone gamepad coming soon." In c/net UK website (online); Published 8/27/2010; http://crave.cnet.co.uk/mobiles/icontrolpad-unofficial-iphone-gamepad-coming-soon-50000514; entire document, especially pages 3, 4.	☐
	3	Atari Arcade; Website Printout; http://atari.com/buy-games/arcade/atari-arcade-ipad; November 30, 2011; pages 1-3.	☐
	4	Ion iCade Arcade Cabinet; Website Printout; http://www.ionaudio.com/products/details/icade; 2012; pages 1-6.	☐

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 168

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

	5	TURNER, TROY, "Gamepad for Tablets"; Yanko Design; article printout; http://www.yankodesign.com/2012/09/17/gamepad-for-tablets/; 2012; pages 1-7	☐

If you wish to add additional non-patent literature document citation information please click the Add button

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 169

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	
	Filing Date	2018-12-21
	First Named Inventor	Fraser Townley
	Art Unit	
	Examiner Name	
	Attorney Docket Number	OKC03962.2

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

☐ That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

☐ See attached certification statement.

☐ The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Daniel P. Dooley/	Date (YYYY-MM-DD)	2018-12-21
Name/Print	Daniel P. Dooley	Registration Number	46,369

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1 hour to complete, including gathering, preparing and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 170

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 171

Espacenet

Bibliographic data: CN201283220 (Y) — 2009-08-05

Expansion handle for mobile phone game

Inventor(s): JING HU [CN] ± (HU JING)

Applicant(s): JING HU [CN] ± (HU JING)

Classification: **- international:** ***A63F13/245; H04M1/02***
- cooperative:

Application number: CN20082137260U 20081007

Priority number(s): CN20082137260U 20081007

Abstract of CN201283220 (Y)

The utility model provides a telescopic cell phone game paddle, which is formed by connecting a direction control handle, a push-button handle and a telescoping device. The telescopic cell phone game paddle freely adjusts a clamp port distance between the direction control handle and the push-button handle through the telescoping device to clamp a cell phone for playing games. Compared with an existing cell phone game paddle, the telescopic cell phone game paddle has wider clamp port range when excellent operating feeling is guaranteed, is suitable for more cell phones with different sizes, and has smaller volume when in contracting, and is convenient to carry.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 172

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DESCRIPTION CN201283220

The utility model provides a retractable mobile game handle which is composed of a direction control handle, a key handle and a telescopic device. The telescopic mobile game game handle of the utility model can freely adjust the distance between the directional control handle and the middle of the button handle through the expansion device to grip the mobile phone for playing. Compared with the existing mobile game joystick, the mobile phone game handle has a larger gripping range while ensuring a good operation feeling, and can adapt to the size of more mobile phones, and has a smaller size when contracted, and is convenient to carry.

Telescopic mobile game controller

Technical field

The utility model relates to a mobile game-specific game device, in particular to a compact and portable device, which is suitable for a wide range of mobile phone game handles.

Background technique

At present, there are two types of mobile game joysticks with and without a clamp. The mobile game pad with a clip has a small range of clips and cannot hold the mobile phone horizontally. The types of applicable mobile phones are limited, and the size of the mobile phone game pad is not large. The mobile phone gamepad with no fixture is directly connected to the mobile phone through the data cable or Bluetooth. The mobile phone needs to be placed separately, which makes the operation extremely inconvenient, and the corresponding volume is also too large to carry.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 173

Summary of the Invention

In order to overcome the shortcomings of the existing mobile game joystick with a small range of clips, small types and large size of the applicable mobile phones, the utility model provides a retractable mobile game game handle, which is not only compact and portable, but also has a large range of clips. It can adapt to almost all mobile phones on the market.

The technical solution adopted by the utility model to solve the technical problems is as follows: two separate handles, the back of the direction control handle and the key handle are fixedly connected through a telescopic device, and the outer cover is covered to make it closed, and the expansion device and the two handles are connected. The sleeve is provided with a spring. The two spring legs are respectively buckled on the two shafts at the extreme ends of the two rows of the upper and lower ends of the telescopic device, so that the telescopic device is always in a contracted state. The middle shaft of the middle row rotary shaft in the telescopic device has a soft glue on the middle shaft. Suction cups, each set of upper and lower rows of shafts are provided with soft rubber pads. The telescopic device uses a number of struts of the same size for X-shaped interleaving and is fixed by the shaft so that it can achieve a minimum range of contraction when it shrinks. This effectively saves space and stretches. When it reaches the maximum stretching range, it maximizes space utilization. When in use, the direction control handle and the key handle are stretched to fit both sides, put the mobile phone into the middle of the two handles, force the middle suction cup and the back of the mobile phone to be compacted, so that the suction cup is firmly adsorbed on the back of the mobile phone, two rows up and down The soft rubber on the rotating shaft holds the back of the mobile phone to keep the balance of the mobile phone and avoid the wear of the back of the mobile phone. At this time, the two handles are loosened and the two handles are naturally clamped to the middle to ensure that the mobile phone and the two handles become a whole, whether horizontal Holding the mobile phone or holding the mobile phone in the longitudinal direction can ensure good stability; when the mobile phone is not used, the mobile phone is removed, and the two separate handles are driven by the telescopic device and the spring, naturally shrinking in the middle to become a compact handle. Can be fitted into a pocket for easy carrying.

The beneficial effect of the utility model is that it can adapt to the type of mobile phone with different sizes while ensuring the compact size, and the structure is simple.

Description of the drawings

The following is a further description of the present invention with reference to the accompanying drawings and

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 174

examples.

Figure 1 is a handle merger diagram of the present invention

Figure 2 is a handle stretching diagram of the utility model

Figure 3 is a rear view of the rear shell removed in Figure 2

Figure 4 is an enlarged left view of the rear shell of Figure 2

Figure 5 is a partial sectional view of Figure 4A-A

Figure 6 is an enlarged sectional view of the upper and lower rows of shafts of the telescopic device

FIG. 7 is an enlarged sectional view of the center axis and suction cup of the middle row rotary shaft in the telescopic device.

8 is an enlarged sectional view of a middle row of shafts (other shafts except suction cups) in the telescopic device

In the picture 1. Directional control handle, 2. Key handle, 3. Telescopic device, 4. Spindle, 5. Soft rubber sucker, 6. Rear shell, 7. Spring, 8. Screw, 9. End pole, 10. Soft pads, 11. Flat bushings, 12. Convex shaft sleeve, 13. Middle row shaft, 14. Pole.

detailed description

In Fig. 3, the direction control handle (1) and the key handle (2) are fixedly connected with the shafts at the extreme ends of the telescopic device (3) and the middle row rotating shaft (13), and the end shaft is covered with a spring (7). As shown in Fig. 5, the two sub-legs of the spring (7) are respectively fastened on the two extreme axes of the upper and lower rows of shafts (4) of the telescopic device (3).

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 175

In the embodiments shown in FIG. 2 and FIG. 3, the telescopic device (3) is an assembly consisting of a plurality of struts (14) of equal length equally divided into X-shapes, and the ends and the end struts (9) Intersect, the intersection is connected with the middle row shaft (13), and the upper and lower rows of junctions are connected by the shaft (4), so that the telescopic device can be freely stretched in the largest range. The length of the end pole (9) is slightly larger than other Half of the pole (14). In Fig. 6, the rotating shaft (4) is composed of a screw (8), a convex sleeve (12) and a soft rubber pad (10); the middle shaft of the middle rotary shaft in Fig. 7 is composed of a screw (8) and a convex sleeve (12) And the soft rubber sucker (5) is sleeved and assembled; in FIG. 8, the middle row rotary shaft (13) is composed of a screw rod (8) and a flat shaft sleeve (11); the male shaft of the screw (8) has an external thread, convex There are internal threads at the concave hole of the sleeve and the flat sleeve, which are used to combine with the screw (8) to fix the intersection of the support rods; there is a ring groove at the front of the convex sleeve so that the soft pad (10) and the soft rubber sucker (5) Can be firmly buckled on it. The end shafts on both sides of the middle row shaft have no flat shaft sleeves, and the screw rod (8) directly fixes the transferred end pole (9) on the direction control handle (1) and the key handle (2); there is a middle in the rear shell (6). When the chute is covered with the back shell, the chute buckles the screw (8) in the middle row of the telescopic device (3) so that the sliding direction is always a straight line. In use, the direction control handle (1) and the key handle (2) are stretched on both sides. The telescopic device automatically adjusts the distance between the struts according to the degree of stretching to ensure that the soft rubber suction cup (5) in the middle is always in position. The middle position of the direction control handle (1) and the key handle (2) is to place the mobile phone in the longitudinal or transverse direction, and the soft plastic sucker (5) in the telescopic device (3) is strongly pressed against the back of the mobile phone to make the soft plastic sucker (5) Securely attach to the back of the mobile phone and loosen the direction control handle (1) and the key handle (2). The two handles will automatically clamp the mobile phone due to the action of the spring (7) to make the mobile phone and the direction control handle (1) and The key handle (2) becomes a unit. Each soft rubber pad on the shaft (4) holds the back of the phone to keep the phone balanced and protected from wear.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 176

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CLAIMS CN201283220

1.
A retractable mobile game joystick, two separate handles, a direction control handle and a key handle are connected by a telescopic device and a spring, and the cover is externally covered. The features are: the back and expansion of the direction control handle and the key handle The shaft of the middle row of rotation shafts in the device is fixedly connected and sleeved with a spring. The two spring legs respectively buckle on the two shafts at the ends of the upper and lower rows of shafts of the expansion device.

2.
The telescopic mobile game joystick according to claim 1, wherein the telescopic device is formed by a plurality of struts interlacedly connected, and each connecting portion is provided with a rotating shaft, and the middlemost one of the rotating shafts of the middle-row rotating shaft is covered with a soft rubber. Suction cups.

3.
A telescopic mobile game pad according to claim 1, wherein each of the upper and lower rows of rotary shafts of the retractable device is provided with a soft rubber pad on each axis.

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Drawing pages of CN201283220 Y

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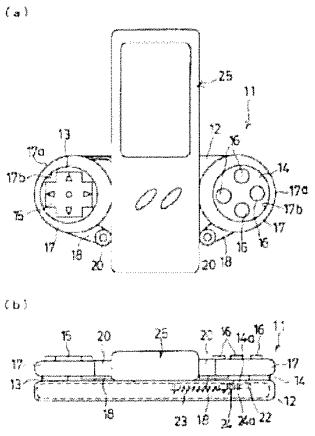
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JP,2002-196859,A

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(71)Applicant	MITSUMI ELECTRIC CO LTD
(72)Inventor	NAKAGAWA AKIO



(54)CONTROLLER WITH HOLDING MECHANISM

(57)Abstract
PROBLEM TO BE SOLVED: To prevent the positional deviation and detachment of a body to be held by stabilizing the held state of a controller with a holding mechanism.
SOLUTION: This controller 11 with a holding mechanism is constituted so that a portable telephone 25 can be press-contacted and held between a right key plate 14 and a left key plate 13 on the upper face of a controller case 12. The lower parts of the right key plate 14 and the left key plate 13 are provided with right and left swinging arms 18 and 18 whose base edge parts are pivotally supported near the central positions of the right key plate 14 and the left key plate 13, and whose top end parts are projected from the outer peripheries of the right key plate 14 and the left key plate 13, and constituted so as to be allowed to swing when energized by a torsion spring. Then, the portable telephone 25 is press-contacted and held by the right key plate 14 and the left key plate 13, and also press-contacted and held between the swinging arms 18 and 18 so that the portable telephone 25 can be held at four points.

Previous Document 1/1 Next Docume

To return to the top of this

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 179

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Previous Document 1/1 Next Docume

JP,2002-196859,A

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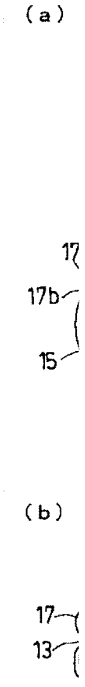
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CLAIMS

[Claim(s)]
[Claim 1]Set up an attachment component for making a top surface of a controller case abut an end of a supporter, and. In a controller with maintaining structure constituted so that a slide member which separated with the attachment component and was energized with an elastic member might be provided and pressure welding pinching of the aforementioned supporter might be carried out by the attachment component and the slide member, A proximal end is supported pivotably near the center position of the attachment component and the slide member by the lower part of the aforementioned attachment component and the aforementioned slide member, respectively, and. Two swinging arms which a point projects from the attachment component and the slide member periphery, and is energized with an elastic member, and swings are provided, A controller with maintaining structure constituting so that the aforementioned supporter may be held by four points by carrying out pressure welding pinching by the aforementioned swinging arm in addition to carrying out pressure welding pinching of the aforementioned supporter by the aforementioned attachment component and the aforementioned slide member.
[Claim 2]The controller with maintaining structure according to claim 1 constituting so that a holding roll may be provided to a point of the above-mentioned swinging arm and pressure welding pinching of the above-mentioned supporter may be carried out with the holding roll.
[Claim 3]The controller with maintaining structure according to claim 1 or 2, wherein the above-mentioned elastic member which energizes the above-mentioned swinging arm is a torsion spring.



Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 180

Previous Document 1/1 Next Docume

To return to the top of this

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 181

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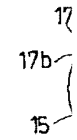
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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Field of the Invention]This invention relates to a controller with maintaining structure, holds the cellular phone with which a game etc. are mounted especially by the maintaining structure of a controller, and relates to the controller with maintaining structure which enabled it to perform the game by a mobile phone, etc. using the controller.
[0002]
[Description of the Prior Art]The conventional controller with **** maintaining structure is described according to Fig.4. 1 is a controller with maintaining structure in the figure, and the controller 1 with maintaining structure has the plane view abbreviation ellipse-like controller case 2, The right-and-left key plates 3 and 4 protrude near the right and left ends of the top surface of the controller case 2, the arrow key 5 is provided by this left key plate 3, and the button keys 6, 6, 6, and 6 are arranged by this right key plate 4.
[0003]The holder 8 for holding the mobile phone 7 with which a game etc. are installed is fixed to the central part of the aforementioned controller case 2.
[0004]When **(ing) and performing a game etc. using the controller 1 with the aforementioned maintaining structure, Connect the terminal (not shown) of the controller 1 with the aforementioned maintaining structure to the aforementioned mobile phone 7, and the mobile phone 7 is made to hold in the aforementioned holder 8, the aforementioned arrow key 5 or the aforementioned button keys 6, 6, 6, and 6 of the aforementioned right-and-left key plates 3 and 4 are operated, and a game etc. are performed.
[0005]
[Problem to be solved by the invention]A holder is fixed to the central part of the controller case, and the controller with maintaining structure of the above-mentioned conventional case makes a mobile phone hold in the holder, and performs the game by the controller with maintaining structure.
[0006]However, since the controller with the aforementioned maintaining structure is an exclusive controller which doubled the form of the aforementioned holder with the specific mobile phone, it does not have flexibility, and it was not provided with the maintaining structure for making it apply to the mobile phone which has various form.
[0007]Then, set up the attachment component for making the top surface of a controller case abut the end of a mobile phone in order to give flexibility to the aforementioned maintaining structure, and. The slide member which separated with the attachment component and was energized with the elastic member is provided, and the controller with maintaining structure constituted so that pressure welding pinching of the mobile phone might be carried out by the attachment component and the slide member is considered.
[0008]However, since pressure welding pinching of the mobile phone was carried out by the aforementioned attachment component and the aforementioned slide member by two points in

(a)



(b)



Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 182

this case, holding of the mobile phone was not stabilized but there was positional displacement of the mobile phone or fear of secession.

[0009]Then, the hold condition of a controller with maintaining structure is stabilized, technical problem which should be solved in order to prevent the positional displacement of a supporter and secession arises, and an object of the present invention is to solve this problem.

[0010]

[Means for solving problem]Set up the attachment component for the present invention being proposed to achieve the above objects, and making the top surface of a controller case abut the end of a supporter, and. In the controller with maintaining structure constituted so that the slide member which separated with the attachment component and was energized with the elastic member might be provided and pressure welding pinching of the aforementioned supporter might be carried out by the attachment component and the slide member, A proximal end is supported pivotably near the center position of the attachment component and the slide member by the lower part of the aforementioned attachment component and the aforementioned slide member, respectively, and. Two swinging arms which a point projects from the attachment component and the slide member periphery, and is energized with an elastic member, and swings are provided, By carrying out pressure welding pinching by the aforementioned swinging arm in addition to carrying out pressure welding pinching of the aforementioned supporter by the aforementioned attachment component and the aforementioned slide member, The controller with maintaining structure constituted so that the aforementioned supporter might be held by four points, And a holding roll is provided to the point of the above-mentioned swinging arm, and the controller with maintaining structure constituted so that pressure welding pinching of the above-mentioned supporter might be carried out with the holding roll, and the above-mentioned elastic member which energizes the above-mentioned swinging arm provide the controller with maintaining structure which is a torsion spring.

[0011]

[Mode for carrying out the invention]Hereinafter, the 1 embodiment of the present invention is explained in full detail according to the Fig.3 to Fig.1. 11 is a controller with maintaining structure in Fig.1, and the controller 11 with maintaining structure has the plane view abbreviation ellipse-like controller case 12, The cylindrical right-and-left key plates 13 and 14 protrude near the right and left ends of the top surface of the controller case 12, the arrow key 15 is provided by this left key plate 13, and the button keys 16, 16, 16, and 16 are arranged by this right key plate 14. And the aforementioned left key plate 13 and the right key plate 14 are provided with the work as the attachment component and slide member for holding the mobile phone mentioned below, respectively.

[0012]In the outer side surface of the aforementioned right-and-left key plates 13 and 14, Fitting of the eccentricity annular solids 17 and 17 which made decenter the inner peripheral surface 17b to the outer peripheral surface 17a, and were formed is carried out freely attachable/detachable, respectively, and the eccentricity annular solids 17 and 17 are adjustable in the gap between the eccentricity annular solids 17 and 17 by choosing the fixation direction.

[0013]The right and left swinging arms 18 and 18 which swing the neighborhood of a center position of the right-and-left key plates 13 and 14 as a fulcrum are energized by the torsion springs 19 and 19 which are the elastic members shown in Fig.2, and are provided by the lower part of the aforementioned right-and-left key plates 13 and 14. And as shown in Fig.1, the point of the aforementioned swinging arms 18 and 18 is projected from the periphery of the aforementioned right-and-left key plates 13 and 14, and the holding rolls 20 and 20 which change from elastic material etc. to the point of the swinging arms 18 and 18 are arranged.

[0014]21 is a connecting terminal in the figure, and the connecting terminal 21 is fitted in and locked to the concave part 12a formed in the top surface of the aforementioned controller case 12.

[0015]And as shown in Fig.3, in order for the aforementioned right key plate 14 to have become slidable at the longitudinal direction of the aforementioned controller case 12 and to perform the sliding operation. A long hole (in Fig.2 12b, 12b, 12b) is trepanned by the longitudinal direction of the controller case 12 top surface, and the sliding parts 14a, 14a, and 14a for sliding on the inside of the long hole protrude on the lower part of the aforementioned right key plate 14.

[0016]It is fixed to the lower end of the aforementioned sliding part 14a by the slider 22 of plate shape in the inside of the aforementioned controller case 12, and the slider 22, It is constituted so that it may be energized by the controller case 12 aforementioned center direction and may slide on an end with the aforementioned right key plate 14 with the spring 23 which is the elastic member fixed to the aforementioned controller case 12.

[0017]The rotating body 24 which is a locking mechanism of the slider 22 is rotatably supported pivotably by the pin (not shown) fixed to the upper case of the aforementioned controller case 12 in the side (in the figure front) of the aforementioned slider 22 again. And the rotating body 24 is provided with a cam surface (not shown), it is constituted so that the aforementioned slider 22 may be welded by pressure and restricted by the cam surface, and a part of operating part 24a of the rotating body 24 is exposed outside from the aforementioned controller case 12.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 183

[0018]As it ** and is shown in the Fig.3 to Fig.1, when performing a game etc. using the controller 11 with the aforementioned maintaining structure, After taking out the aforementioned connecting terminal 21 from the aforementioned concave part 12a, it is a supporter about the connecting terminal 21, And a game etc. connect with the mobile phone 25 installed, and further, After adjusting the gap between the eccentricity annular solids 17 and 17 by choosing and equipping with the mounting direction of the aforementioned eccentricity annular solids 17 and 17, It is made to swing in the direction which slides the aforementioned right key plate 14 on the right direction and to which it opens the above-mentioned right and left swinging arms 18 and 18 each other, holds, and places the aforementioned mobile phone 25 on the aforementioned controller case 12 of the gap between the aforementioned eccentricity annular solids 17 and 17.

[0019]And if holding of the aforementioned right key plate 14 is released, this right key plate 14 will slide on a tensile direction of the aforementioned spring 23, and will carry out pressure welding pinching of the aforementioned mobile phone 25 by the aforementioned eccentricity annular solids 17 and 17.

[0020]If holding of the above-mentioned right and left swinging arms 18 and 18 is released, with the aforementioned torsion springs 19 and 19, the swinging arms 18 and 18 will swing in the direction which approaches each other, and the aforementioned holding rolls 20 and 20 of the swinging arms 18 and 18 will carry out pressure welding pinching of the aforementioned mobile phone 25. A possibility of pressure welding pinching of the mobile phone 25 being smoothly carried out with the holding rolls 20 and 20, and damaging the mobile phone 25 is also lost.

[0021]Next, the slide of the aforementioned right key plate 14 fixed to the slider 22 is locked by operating the operating part 24a of the aforementioned rotating body 24 by rotating the rotating body 24 and welding the aforementioned slider 22 by pressure by the aforementioned cam surface.

[0022]Thus, since the four aforementioned mobile phones 25 are supported and are held by the aforementioned eccentricity annular solids 17 and 17 and the aforementioned holding rolls 20 and 20, the stable hold condition is acquired and the positional displacement of the aforementioned mobile phone 25 and secession can be prevented. Since the aforementioned hold condition is locked by the aforementioned rotating body 24, the aforementioned mobile phone 25 will be in the extremely stable hold condition.

[0023]In this state, the aforementioned arrow key 15 of the aforementioned left key plate 13 or the aforementioned button keys 16, 16, 16, and 16 of the aforementioned right key plate 14 can be operated, and a game etc. can be performed. When removing the aforementioned mobile phone 25, the above-mentioned operation may be performed conversely.

[0024]It is also possible for the controller with maintaining structure of the present invention not to be limited to the aforementioned mobile phone, but to apply to a portable device, and applying to other supporters is also possible. As for making it change in accordance with a supporter, it is natural to constitute so that the inner electron circuit of a controller with maintaining structure may also be switched in accordance with the aforementioned mobile phone, a portable device, or a supporter in that case etc.

[0025]The present invention can succeed in various changes, unless it deviates from the pneuma of the present invention, and it is natural that the present invention attains to the changed thing.

[0026]

[Effect of the Invention]As the present invention was explained in full detail to the above-mentioned 1 embodiment, the invention according to claim 1 in a controller with maintaining structure, Since two swinging arms which are energized with an elastic member by the lower part of an attachment component and a slide member, and are swung in it, respectively were provided, By carrying out pressure welding pinching by the aforementioned swinging arm in addition to carrying out pressure welding pinching of the supporter by the aforementioned attachment component and the aforementioned slide member, it becomes possible to hold a supporter by four points, the stable hold condition is acquired, and the positional displacement of a supporter and secession can be prevented.

[0027]The invention according to claim 2 provides a holding roll to the point of the above-mentioned swinging arm, Since it constituted so that pressure welding pinching of the supporter might be carried out with the holding roll, a possibility of in addition to the effect of the invention according to claim 1 pressure welding pinching of the supporter being smoothly carried out with the holding roll, and damaging a supporter is also lost.

[0028]Since the above-mentioned elastic member in which the invention according to claim 3 energizes the above-mentioned swinging arm is a torsion spring, it is invention which just produces immense effects -- the effect of the invention according to claim 1 or 2 and the same effect are expectable.

Previous Document 1/1 Next Docume

To return to the top of this

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 184

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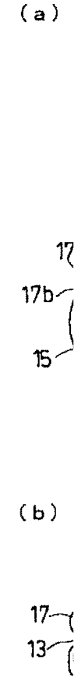
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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
A [FIG. 1] The 1 embodiment of the present invention is shown and it is a front view of a controller with maintaining structure.
A [FIG. 2] The exploded perspective view which showed the 1 embodiment of the present invention and was obtained from the bottom surface side of a controller with maintaining structure.
A [FIG. 3] (a) The front view showing the state where the controller with maintaining structure shown in Fig.1 held the mobile phone.
(b) The side view showing the state where the controller with maintaining structure shown in Fig.1 held the mobile phone.
A [FIG. 4] (a) The side view in which showing a conventional case and showing the state where the controller with maintaining structure held the mobile phone.
(b) The front view in which showing a conventional case and showing the state where the controller with maintaining structure held the mobile phone.
[Explanations of letters or numerals]
11 A controller with maintaining structure
12 Controller case
18 Swinging arm
19 Torsion spring
20 Holding roll



Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 186

Previous Document 1/1 Next Docume

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Ex. 1009, IPR2023-00643, Pg. 187

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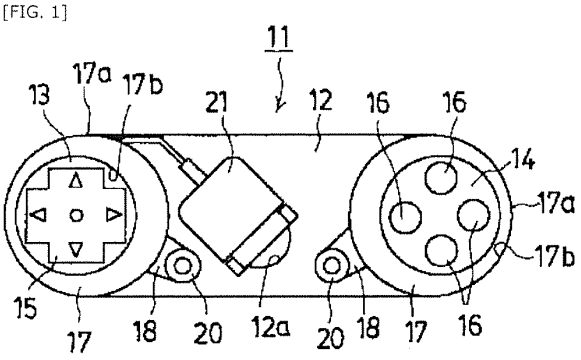
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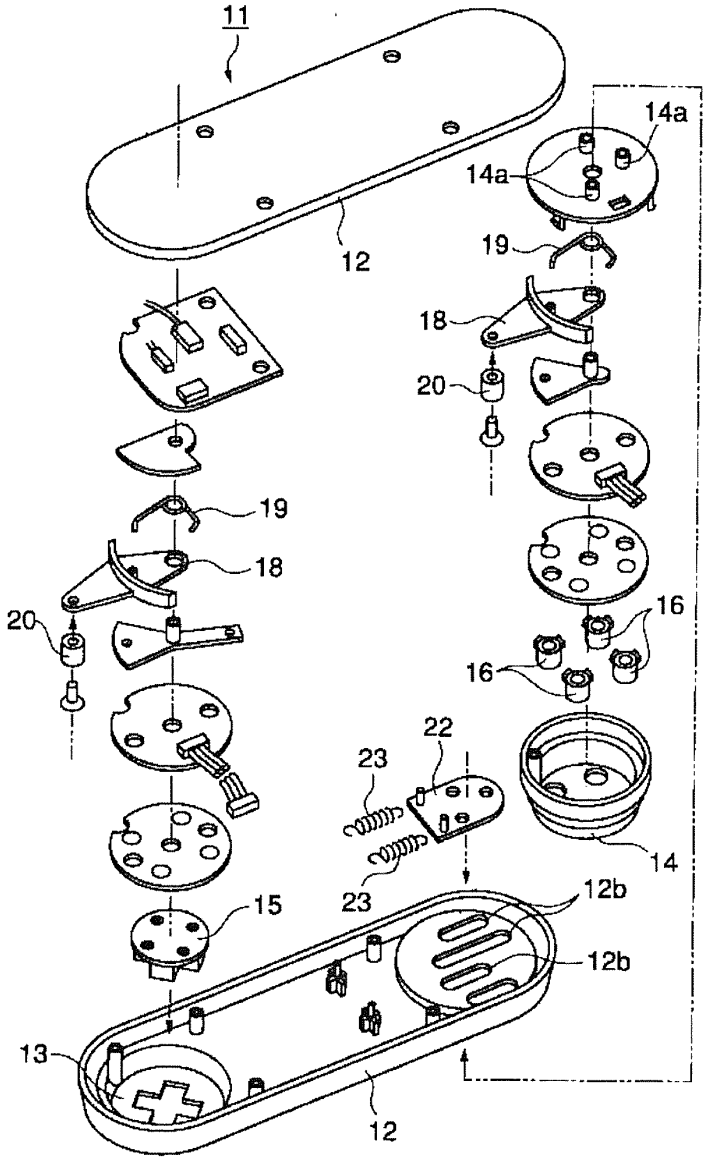
A [FIG. 1]



A [FIG. 2]



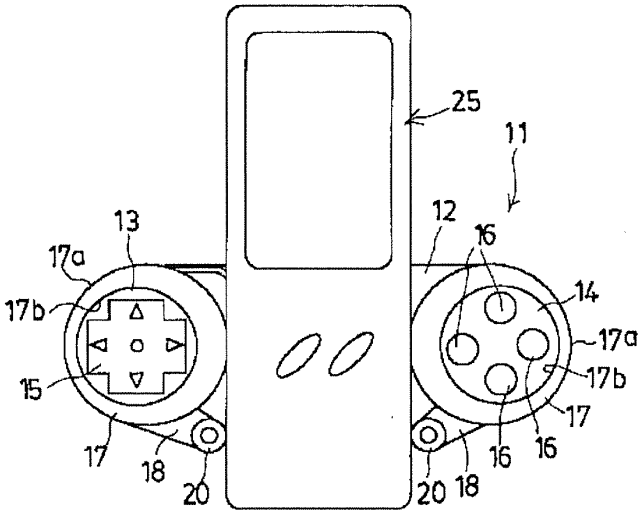
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Ex. 1009, IPR2023-00643, Pg. 188



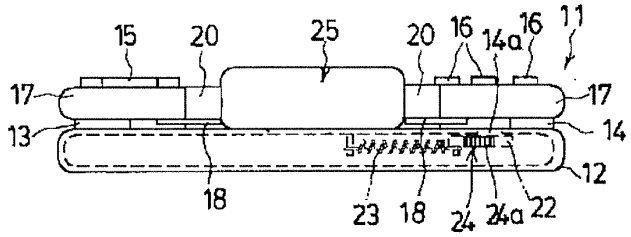
A [FIG. 3]

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Ex. 1009, IPR2023-00643, Pg. 189

(a)

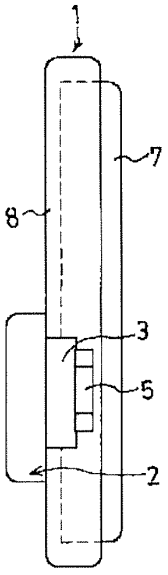


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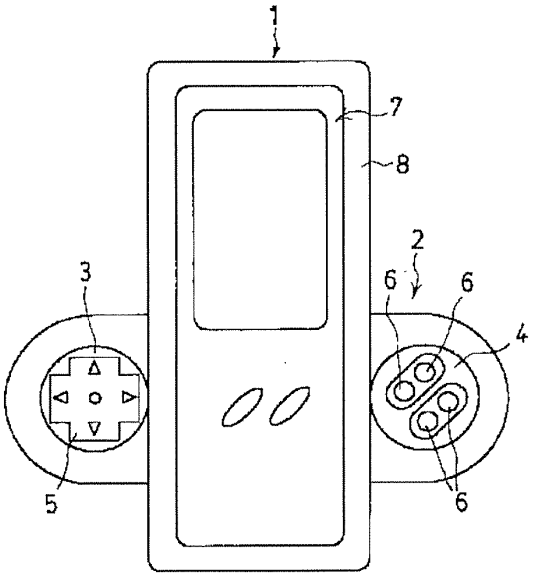


A [FIG. 4]

(a)



(b)



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Ex. 1009, IPR2023-00643, Pg. 190

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Ex. 1009, IPR2023-00643, Pg. 191

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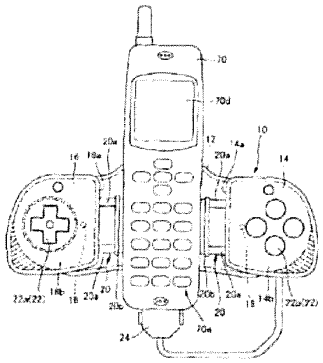
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JP,2003-018275,A

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(71)Applicant	HORI CO LTD
(72)Inventor	HASHIGUCHI SADAO MATSUDA SATOSHI



(54)EXTENDED CONTROLLER TO BE USED IN COMBINATION WITH MOBILE TELEPHONE SET

(57)Abstract

PROBLEM TO BE SOLVED: To provide an extended controller which improves the operability of a video game to be played with a mobile telephone set, thereby enabling a player to enjoy a game as if the player is using a home video game machine.

SOLUTION: The controller is provided with a machine body holding mechanism combined with the mobile telephone set to hold this, hand held structures 14 and 16 projecting to both sides of the mobile telephone set and to be supported by both hands of the user in a combined state, a plurality of operation elements 22 arranged on the front surface of these structures 14 and 16 and to be operated with the finger tip of a user, a signal generation means incorporated into the structures 14 and 16 to generate an electrical signal corresponding to the change of the element 22, and a signal transmission means for transmitting the output signal of this signal generation means to the data terminal of the mobile telephone set.

Previous Document 1/1 Next Docume

To return to the top of this

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Ex. 1009, IPR2023-00643, Pg. 192

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CLAIMS

[Claim(s)]
[Claim 1]An extended controller comprising:
A body maintaining structure means to combine to this in the state where a display screen of a cellular phone is not hidden, and to hold this.
A stock structure which exists with arrangement relationship projected on both sides of the aforementioned cellular phone in the aforementioned combination hold condition, and is supported with a user's both hands.
A plurality of operating elements which are arranged by outer surface of this stock structure and operated by a user's fingertip.
A signal generating means which is built in the aforementioned stock structure and generates an electrical signal according to change of the aforementioned operating element.
Means of signal communication for transmiting an output signal of this signal generating means to a data terminal of the aforementioned cellular phone.

[Claim 2]An extended controller which the aforementioned stock structures supported with a user's both hands are a series of oblong structures in Claim 1, and is characterized by the aforementioned body maintaining structure means being arranged by the central part.
[Claim 3]An extended controller constituting so that a pair of right and left gripper in the aforementioned body maintaining structure means may abut a side part of the aforementioned cellular phone and positioning holding of the aforementioned cellular phone may be carried out in Claim 2.
[Claim 4]An extended controller, wherein a bearing surface and said pair of right and left gripper of the aforementioned body maintaining structure which a back face of the aforementioned cellular phone abuts are unified in Claim 3 and a thing is really [the] attached in a front central part of the aforementioned stock structure so that rotational displacement is possible.
[Claim 5]An extended controller, wherein the aforementioned body maintaining structure means is constituted in Claim 2 in the shape of a pocket which stores the aforementioned cellular phone and holds this.
[Claim 6]In Claim 2,
An extended controller comprising:
A lower end stopper with which a lower end part of the aforementioned cellular phone is abutted, and the aforementioned body maintaining structure means positions a vertical direction.
A right-and-left stopper which abuts both side surfaces of the aforementioned cellular phone, and positions right and left directions.
A presser-foot arm which abuts in front in the aforementioned cellular phone, and suppresses this on a back side according to spring force.



Repre
11

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 193

[Claim 7]An extended controller having a regulatory mechanism which changes an interval of the aforementioned right-and-left stopper in Claim 6.
[Claim 8]An extended controller, wherein the aforementioned stock structure is connected in Claim 1 so that division composition may be carried out and these right structures and the left structure can change both interval into the right structure and the left structure which are operated a right hand and on the left of a user, respectively by the aforementioned body maintaining structure means.
[Claim 9]An extended controller, wherein the aforementioned body maintaining structure means is provided with two or more elastic bands which connect the aforementioned right structure and the left structure in Claim 8.
[Claim 10]A base plate with the aforementioned stock structure oblong in Claim 2, It consists of the right operation block and the left operation block which were attached near the left-and-right ends of this base plate, respectively, An extended controller which carries out the characteristics of these right operation blocks and the left operation block being constituted so that it may be attached by a predetermined locus to the aforementioned base plate so that displacement is possible, and a housed state of a dimension smaller than an outside dimension at the time of use can be presented according to this displacement mechanism.
[Claim 11]In Claim 10, the aforementioned base plate is attached to the aforementioned right operation block and the aforementioned left operation block for those back faces rotatable in front, respectively, An extended controller which carries out the characteristics of those rotating shafts being arranged by central site of a base plate from the center of each operation block.
[Claim 12]In Claim 1, while division composition is carried out at the right structure and the left structure which are operated a right hand and on the left of a user, respectively, the aforementioned stock structure, The aforementioned right structure and the aforementioned left structure are arranged by each end portion of two rotatable link members combined in the shape of X, An extended controller, wherein two aforementioned link members are energized in the direction which the right gripper and the left gripper which make the aforementioned body maintaining structure means are arranged by each other end portion of two aforementioned link members, and narrows an interval of these right grippers and the left gripper.
[Claim 13]An extended controller, wherein the aforementioned right structure and the aforementioned left structure are attached to the aforementioned link member in Claim 12, respectively so that rotation justification is possible.
[Claim 14]In an extended controller combined and used for this in the state where a display screen of a cellular phone is not hidden,
An extended controller comprising:
An one hand holding structure object of a form suitable for ****ing by a user's one hand, while existing in both sides of the aforementioned cellular phone in the state of [aforementioned] combination, making one and making the overall width wide.
A body maintaining structure means which can be expanded and contracted to connect so that both interval can change an one hand holding structure object of the both sides, and to hold the aforementioned cellular phone.
An operating element which was provided by position suitable for being operated with the thumb at one side of the aforementioned one hand holding structure object, and was provided by position suitable for being operated with an index finger, the middle finger, the third finger, or a digitus minimus at the other side.
A signal generating means which is built in the aforementioned one hand holding structure object, and generates an electrical signal according to change of the aforementioned operating element.
Means of signal communication for transmiting an output signal of this signal generating means to a data terminal of the aforementioned cellular phone.

[Claim 15]An extended controller which is provided with the following and by which the aforementioned distribution power board is characterized by holding the aforementioned cellular phone in front with this distribution power board and a tight-binding band of one.
A distribution power board combined in the state of a cellular phone where the display screen is not hidden in front.
An operating element provided by outer surface of this distribution power board.
A signal generating means which is built in the aforementioned distribution power board and generates an electrical signal according to change of the aforementioned operating element.
Means of signal communication for transmiting an output signal of this signal generating means to a data terminal of the aforementioned cellular phone.

[Claim 16]An extended controller comprising:
A control box integrally provided with the right grip body supported with a user's both hands, and the left grip body.
A body accommodation recess by which a groove is cut between the aforementioned right grip body and the aforementioned left grip body, and a cellular phone is stored.
A plurality of operating elements which are arranged by outer surface of the aforementioned right grip body and the aforementioned left grip body, and are operated by a user's fingertip.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 194

* A signal generating means which is built in the aforementioned control box and generates an electrical signal according to change of the aforementioned operating element.
Means of signal communication for transmiting an output signal of this signal generating means to a data terminal of the aforementioned cellular phone.
A right-and-left stopper which protrudes from the aforementioned right grip body and the aforementioned left grip body, respectively, abuts both side surfaces of the aforementioned cellular phone, and positions right and left directions.

[Claim 17]In Claim 16, An extended controller having the elastic band which it abuts in front and suppresses this on a back side in the state where a display screen is not hidden for the aforementioned cellular phone which both ends are fixed to the aforementioned aforementioned right grip body and left grip body side, and was stored by the aforementioned body accommodation recess.

Previous Document 1/1 Next Docume

To return to the top of this

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[The technical field to which invention belongs] This invention is combined and used for a cellular phone, and relates to the extended controller which transmits the electrical signal generated according to a user's operation to a cellular phone.
[0002]
[Description of the Prior Art]The cellular phone is formed small so that it may not be bulky, even if it puts into a pocket etc. that longwise form is made and it is easy to hold single hand, in order to have a receiver brought close to a user's ear, and a transmitter brought close to a mouth. A cellular phone is provided also with a data communication facility in recent years besides the talking function which is a basic function, The server on the Internet was accessed from telephone, the contents of the desired homepage were displayed, or the game program provided at the predetermined site was downloaded, and it became possible to enjoy a video game with the cellular phone. In such a cellular phone, in order to display a game image etc., a display screen is formed comparatively largely, as for the body, a half divides substantially, **** is occupied, and the operation key is provided by the abbreviation half on the transmitter side. And when performing a game, either of these operation keys will be assigned as a manual operation button for game operation.
[0003]
[Problem to be solved by the invention]by the way -- making it correspond to advance of a game, or change of a game image in a video game -- a player -- base -- it is required that a button should be operated quickly and exactly and exact button grabbing and its timing influence largely at deployment and a score of a game. For this reason, controllers, such as a common home video game machine (trademark), for example, PlayStation etc., Game Boy Advance (trademark) of a portable game special-purpose machine, etc., since the form whose button grabbing is possible using the fingertip of both hands is made a player supporting with both hands, a player makes operation of both hands cooperate -- base -- a button can be operated to quick and delicate timing. However, since the aforementioned cellular phone is formed longwise that it is easy to have single hand, it cannot support the width easily with both hands narrowly. Since the operation key arranged by the slight space of the cellular phone at the narrow interval is substituted also as an object for games when carrying out game operation, two or more keys may be pressed simultaneously, or the finger of both hands may be each other interwoven with, and it may become an obstacle of mutual operation. For this reason, the player could not be developed so that a game might be considered, but not to mention it enjoyed the game, the problem that it will give up only irritation and stress collecting and also playing a game with a cellular phone occurred. By using it for a cellular phone, being combined, the object of this invention improves the operability of the video game played with a cellular phone, and there is in providing the extended controller which can enjoy

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 196

a game like a home video game machine and a portable game special-purpose machine.

[0004]

[Means for solving problem]The present invention was made in order to achieve the ****** object, and it is characterized by a controller for extension of Claim 1 comprising the following.

A body maintaining structure means to combine to this in the state where a display screen of a cellular phone is not hidden, and to hold this.

A stock structure which exists with arrangement relationship projected on both sides of the aforementioned cellular phone in the aforementioned combination hold condition, and is supported with a user's both hands.

A plurality of operating elements which are arranged by outer surface of this stock structure and operated by a user's fingertip.

A signal generating means which is built in the aforementioned stock structure and generates an electrical signal according to change of the aforementioned operating element, and means of signal communication for transmiting an output signal of this signal generating means to a data terminal of the aforementioned cellular phone.

[0005]Invention of Claim 2 is a series of structures with the aforementioned oblong stock structure supported with a user's both hands in the extended controller of Claim 1, and the aforementioned body maintaining structure means is arranged by the central part.

[0006]In Claim 2, the pair of right and left gripper in the aforementioned body maintaining structure means abuts the side part of the aforementioned cellular phone, and invention of Claim 3 is constituted so that positioning holding of the aforementioned cellular phone may be carried out.

[0007]In Claim 3, the bearing surface and said pair of right and left gripper of the aforementioned body maintaining structure which the back face of the aforementioned cellular phone abuts are unified, and in the front central part of the aforementioned stock structure, as for invention of Claim 4, the thing is really [the] attached so that rotational displacement is possible.

[0008]Invention of Claim 5 is constituted in Claim 2 in the shape of a pocket which the aforementioned body maintaining structure means stores the aforementioned cellular phone, and holds this.

[0009]The lower end stopper with which the aforementioned body maintaining structure means abuts the lower end part of the aforementioned cellular phone, and invention of Claim 6 positions a vertical direction in Claim 2, It consists of a right-and-left stopper which abuts the both side surfaces of the aforementioned cellular phone, and positions right and left directions, and a presser-foot arm which abuts in front in the aforementioned cellular phone, and suppresses this on a back side according to spring force.

[0010]Invention of Claim 7 is provided with the regulatory mechanism which changes the interval of the aforementioned right-and-left stopper in Claim 6.

[0011]In Claim 1, division composition of the aforementioned stock structure is carried out at the right structure and the left structure which are operated a right hand and on the left of a user, respectively, and invention of Claim 8 is connected so that these right structures and the left structure can change both interval by the aforementioned body maintaining structure means.

[0012]Invention of Claim 9 is provided with two or more elastic bands in which the aforementioned body maintaining structure means connects the aforementioned right structure and the left structure in Claim 8.

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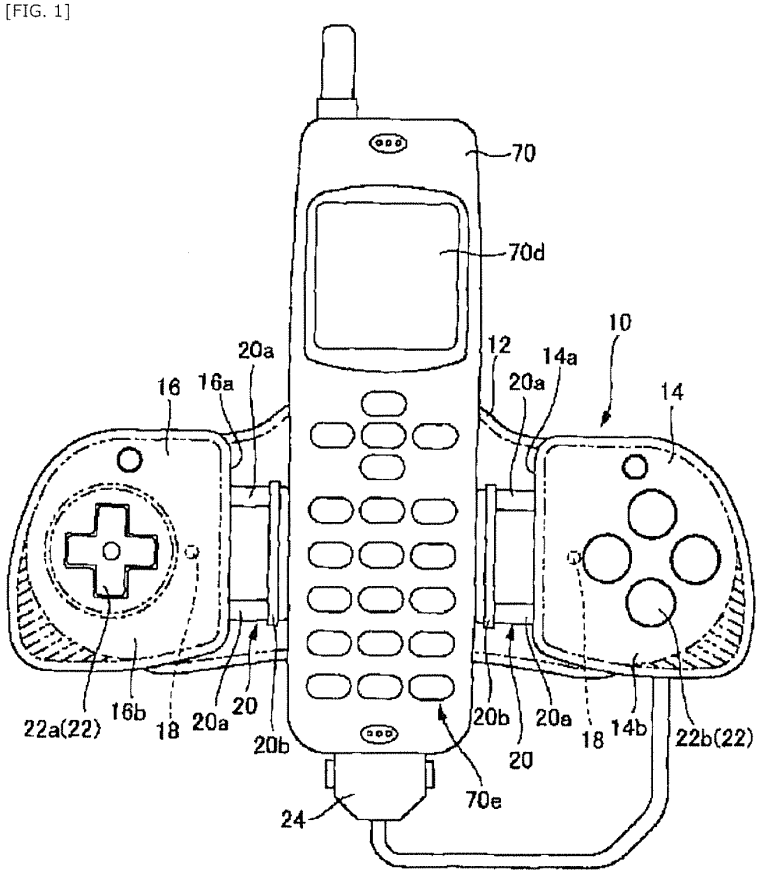
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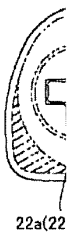
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A [FIG. 1]

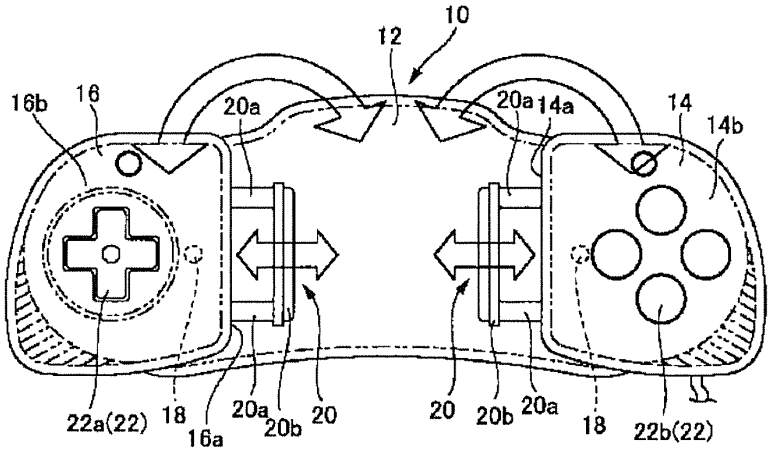




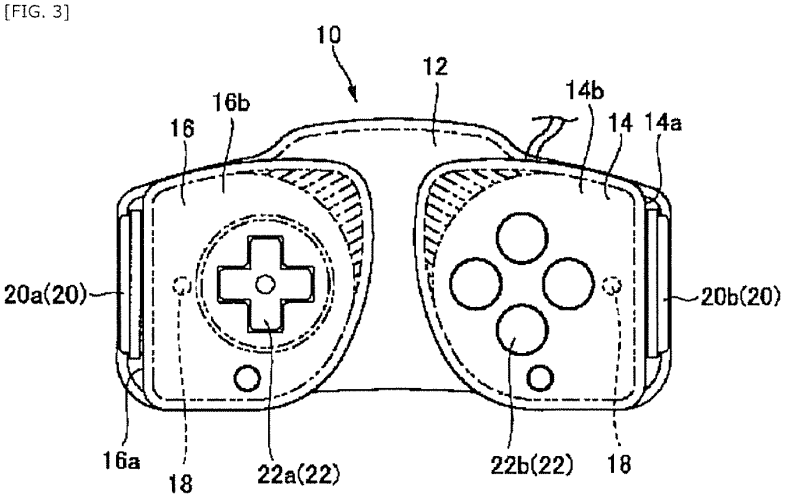
A [FIG. 2]

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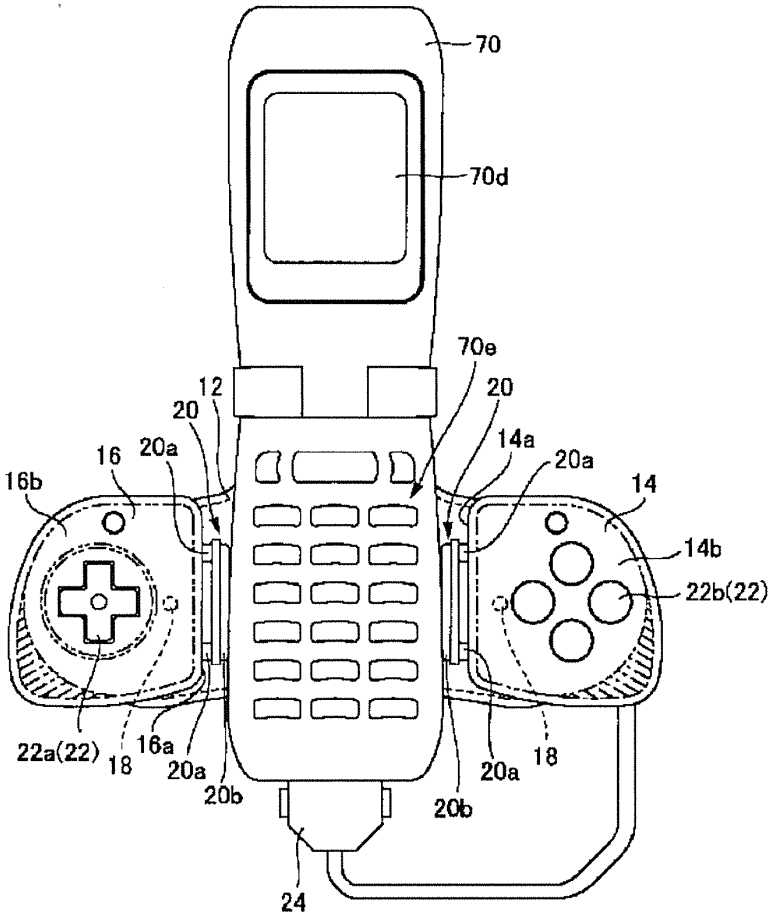


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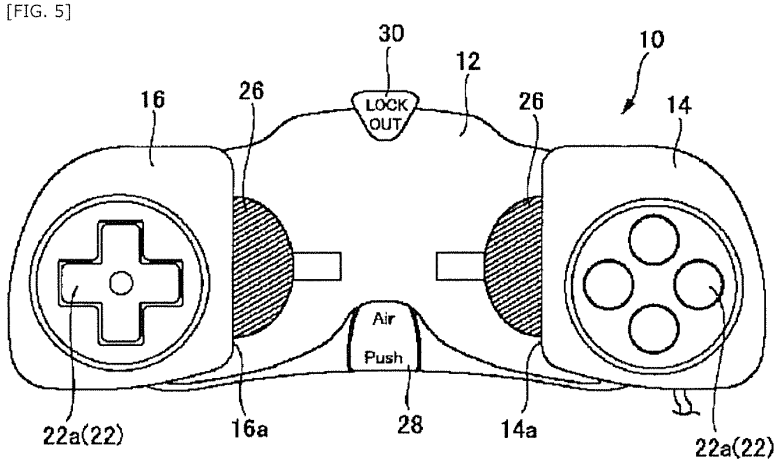


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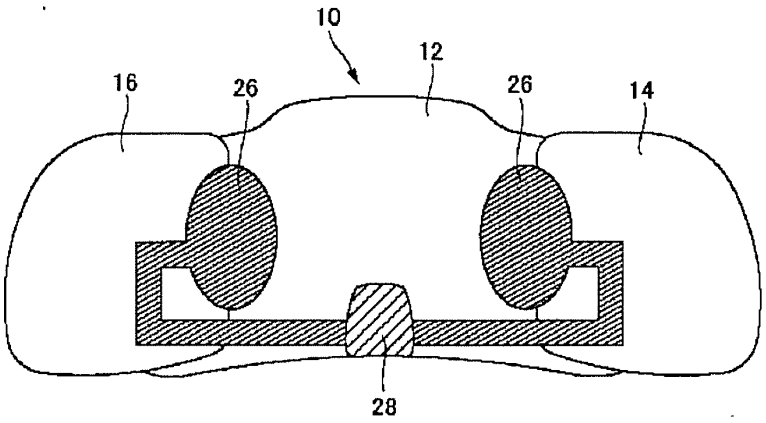


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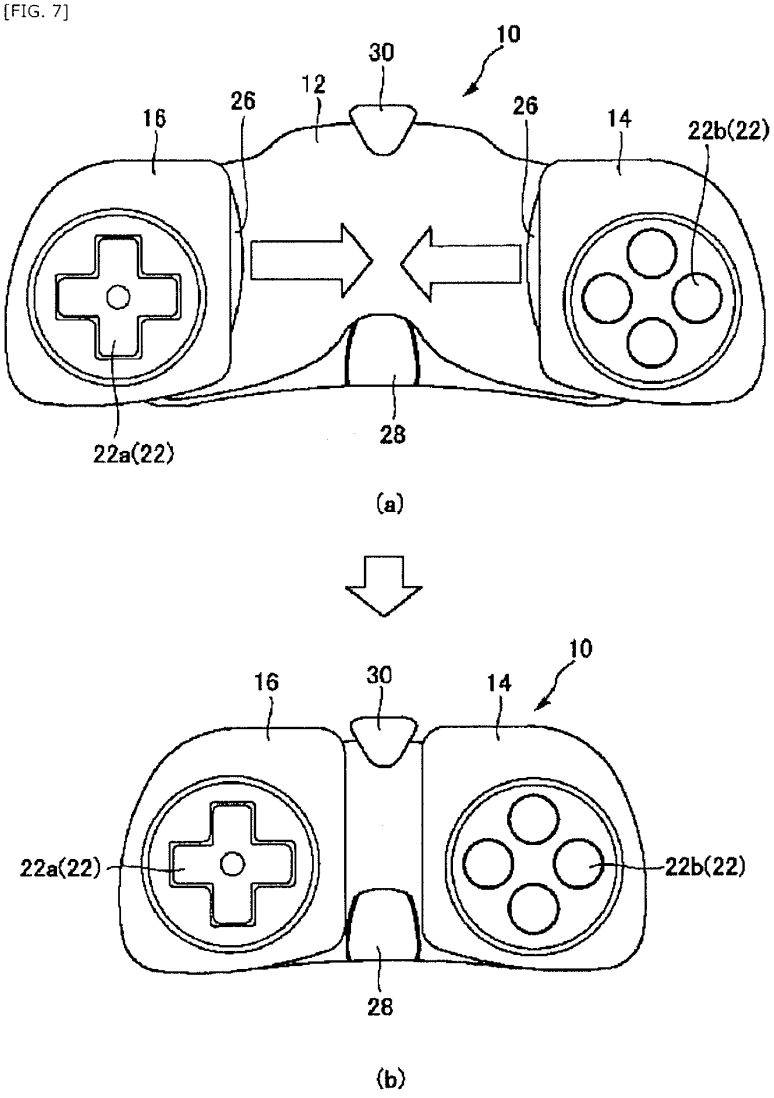


A [FIG. 6]

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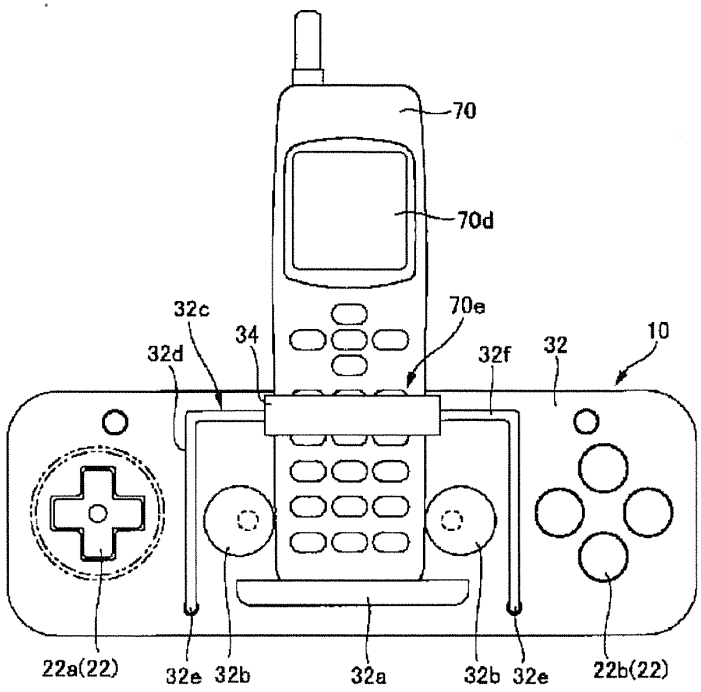


A [FIG. 7]

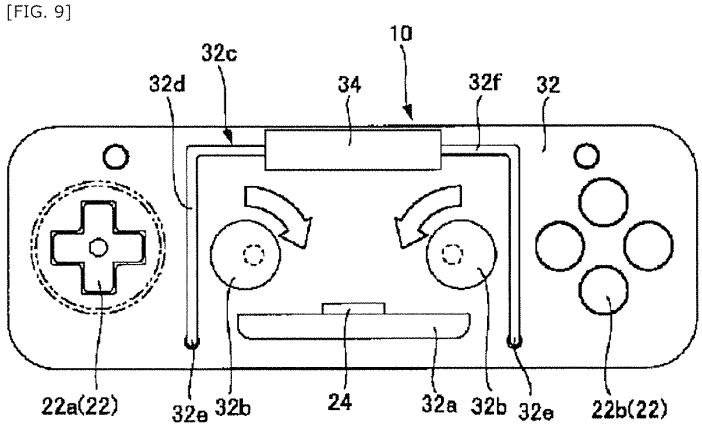


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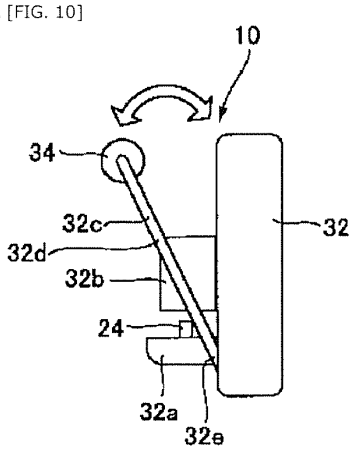
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Ex. 1009, IPR2023-00643, Pg. 201



A [FIG. 9]

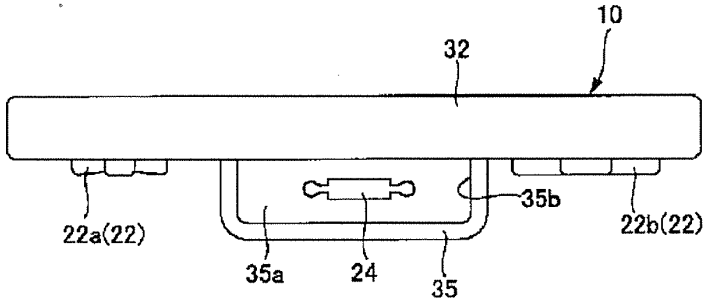


A [FIG. 10]

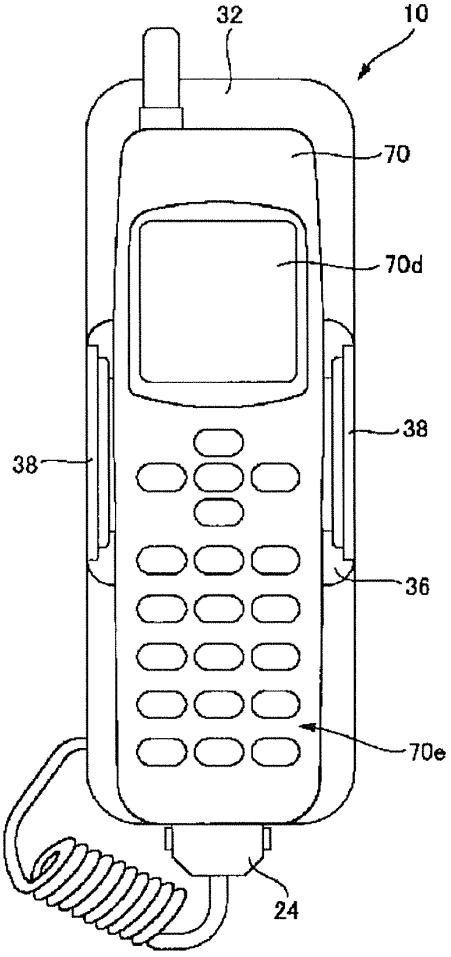


A [FIG. 13]

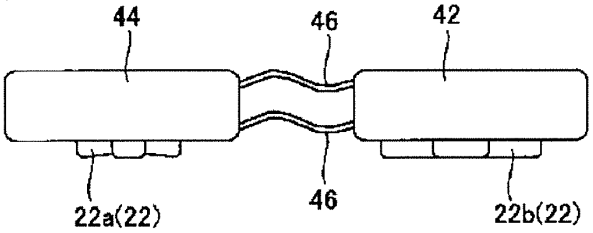
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Ex. 1009, IPR2023-00643, Pg. 202



A [FIG. 15]

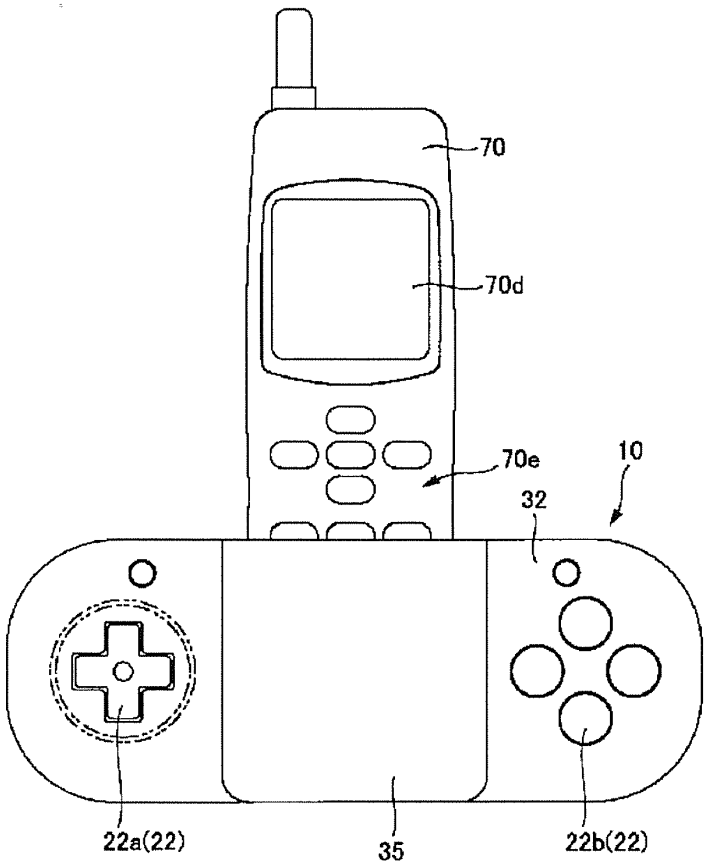


A [FIG. 20]

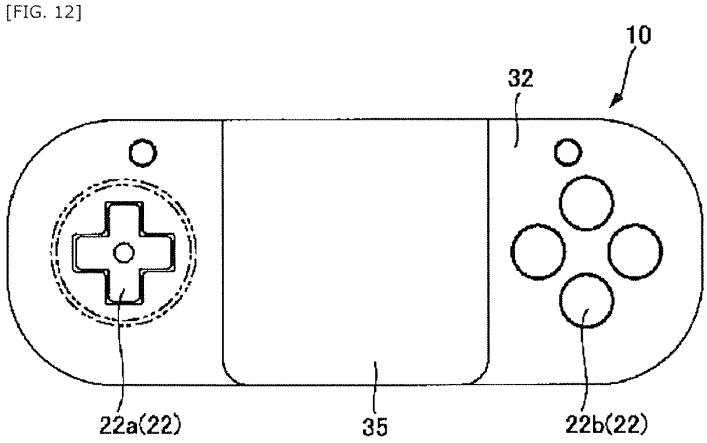


A [FIG. 11]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 203

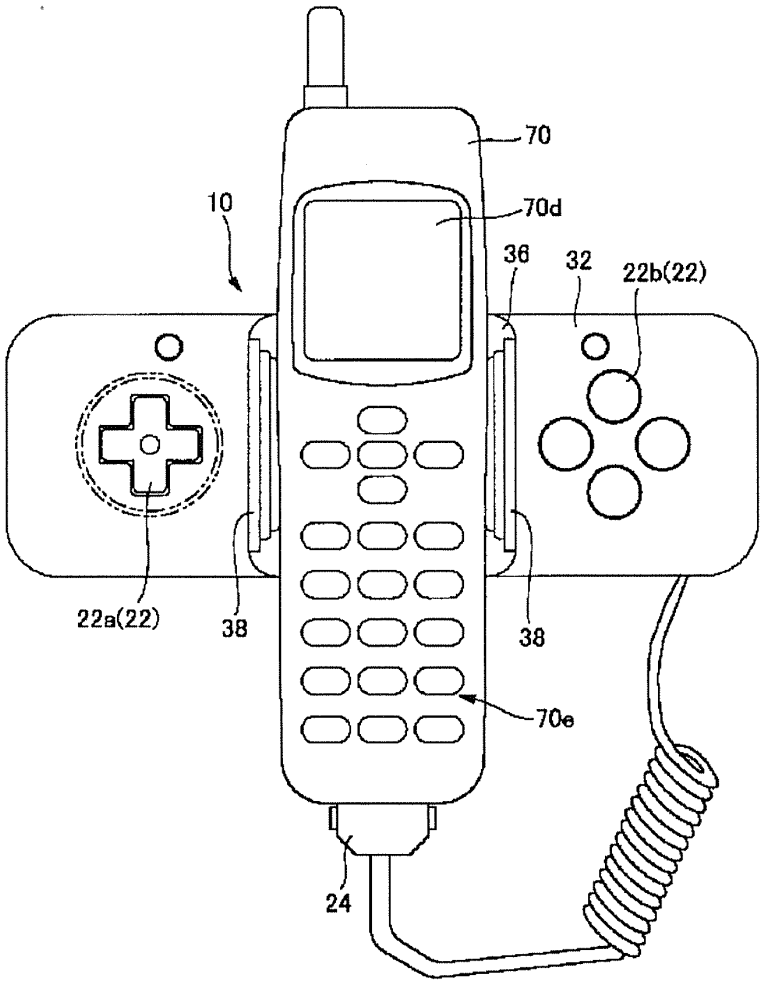


A [FIG. 12]

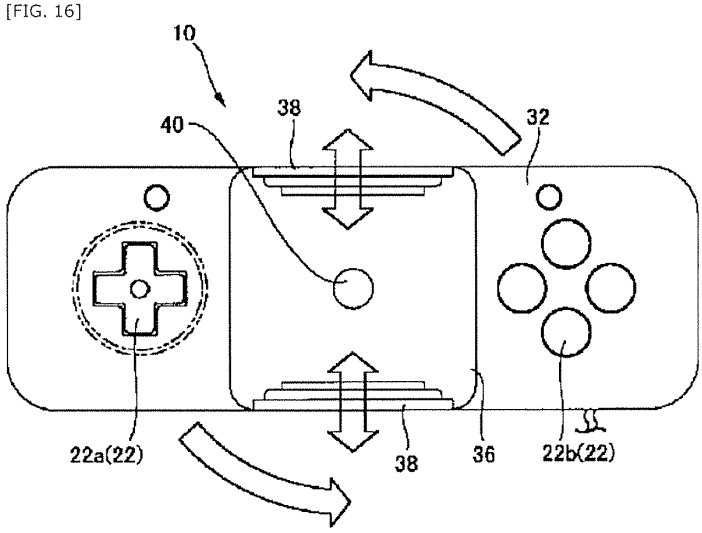


A [FIG. 14]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 204

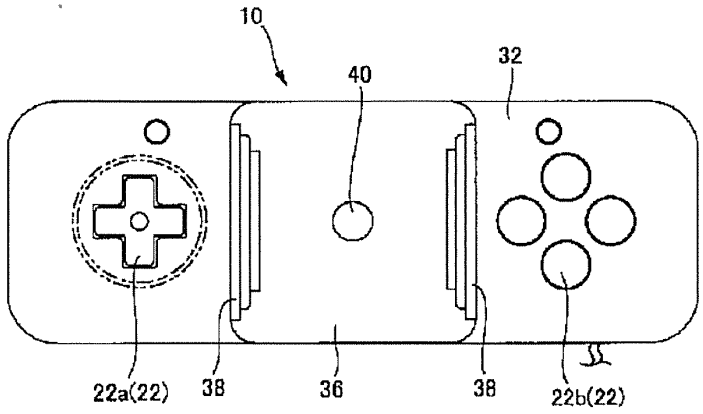


A [FIG. 16]

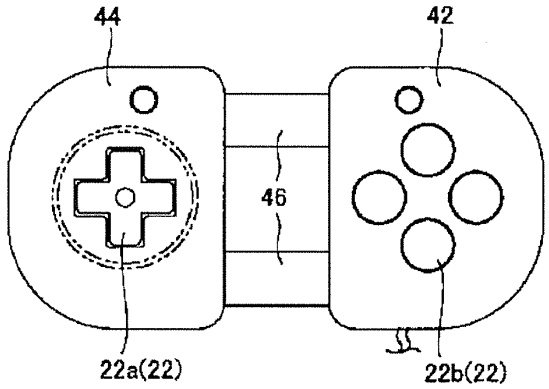


A [FIG. 17]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 205

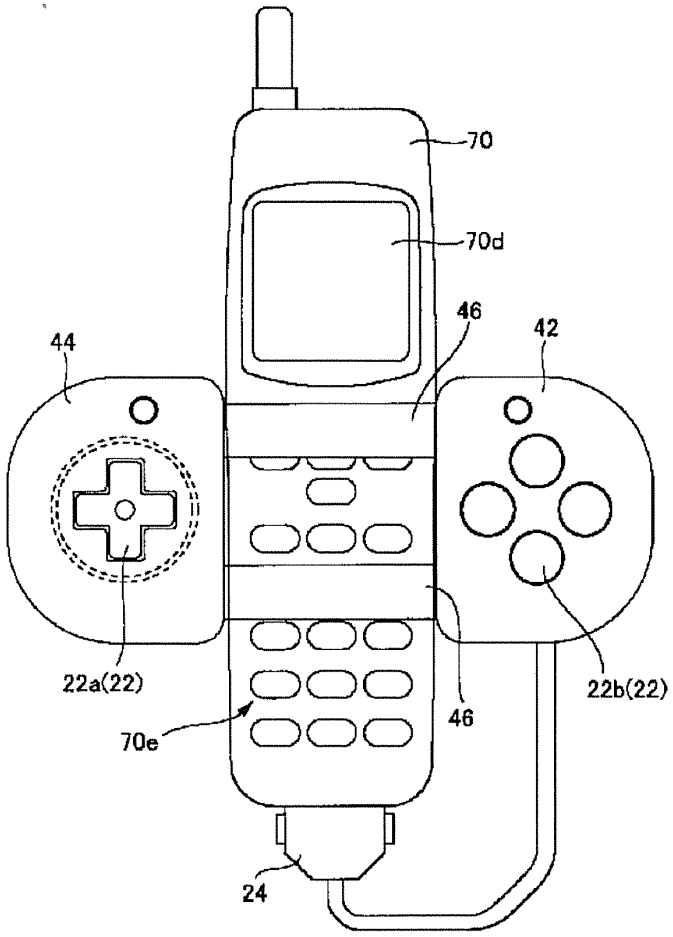


A [FIG. 19]



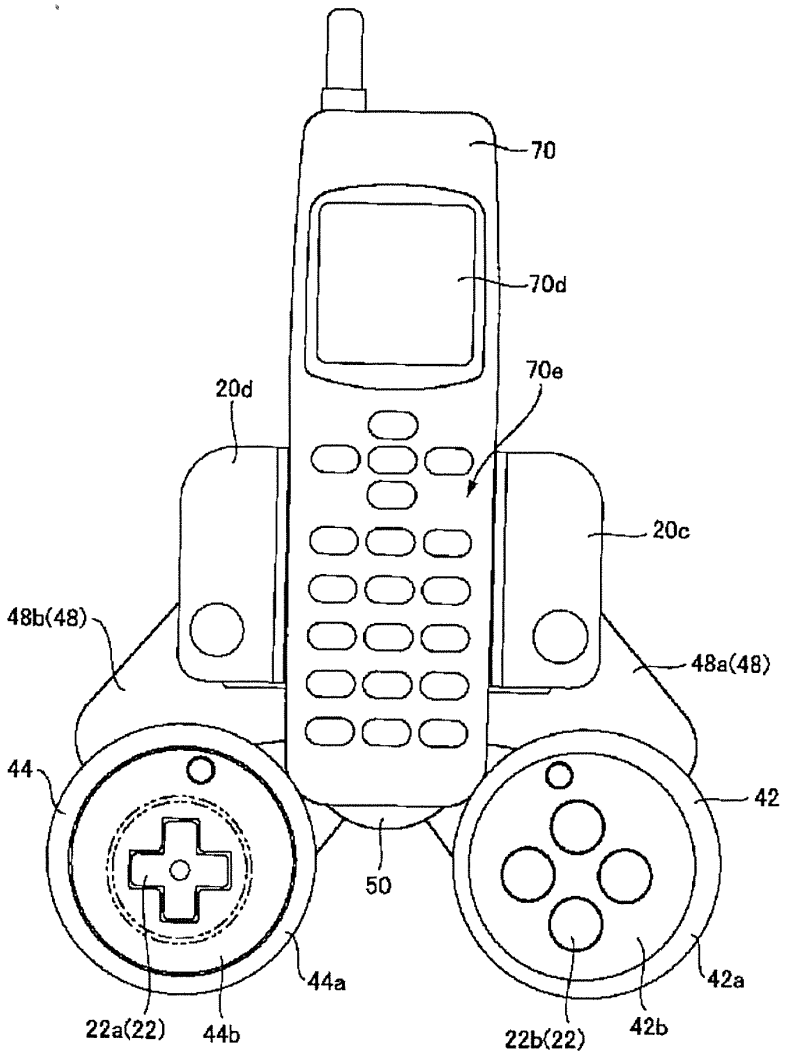
A [FIG. 18]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 206



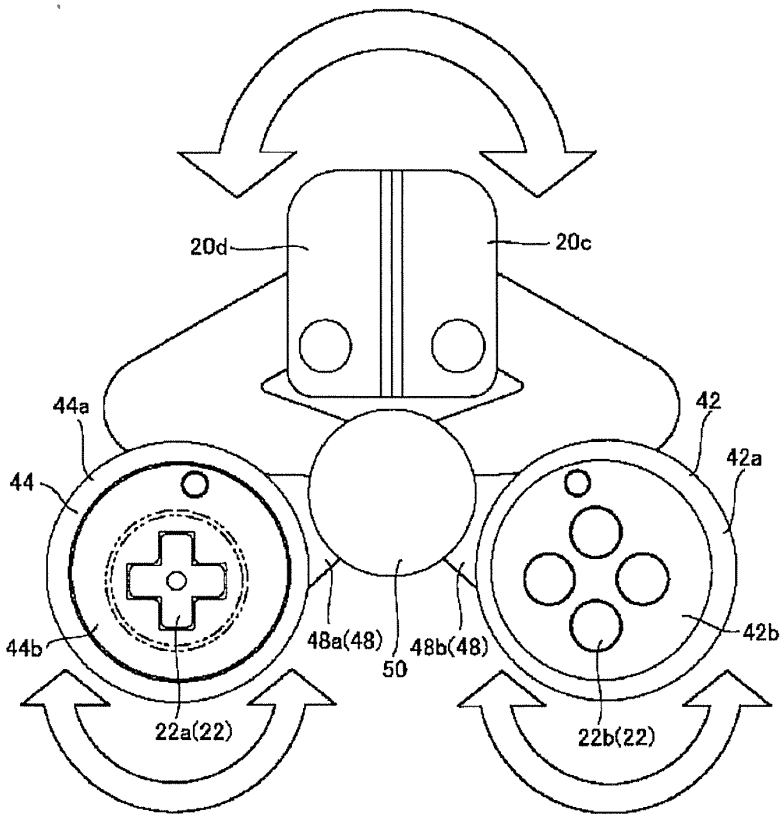
A [FIG. 21]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 207

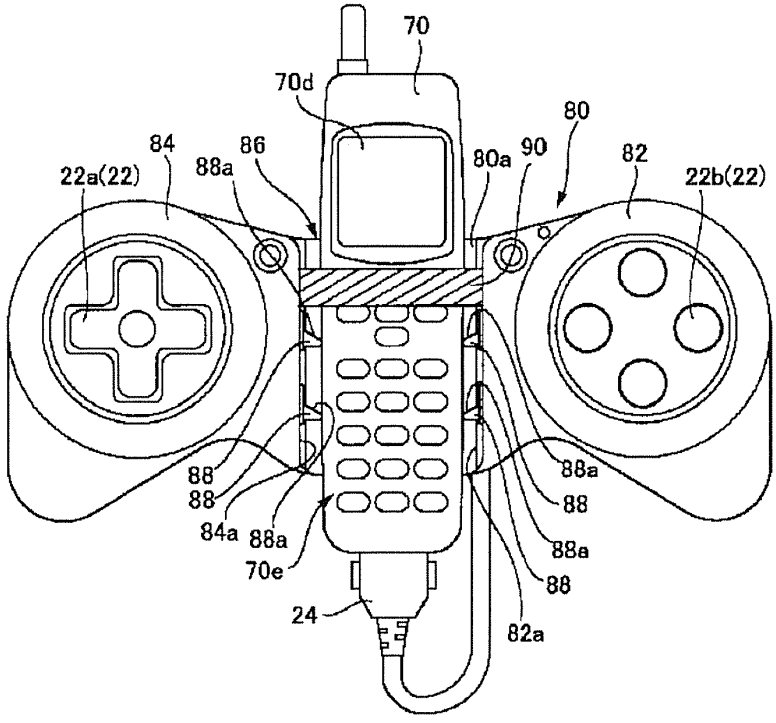


A [FIG. 22]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 208

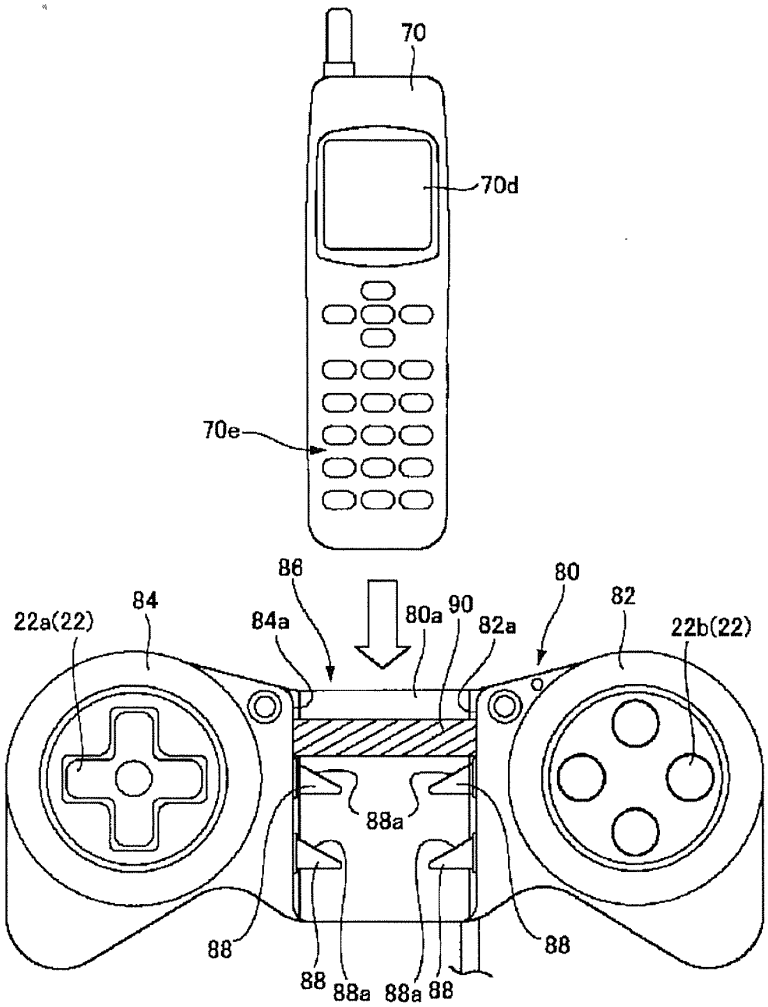


A [FIG. 23]



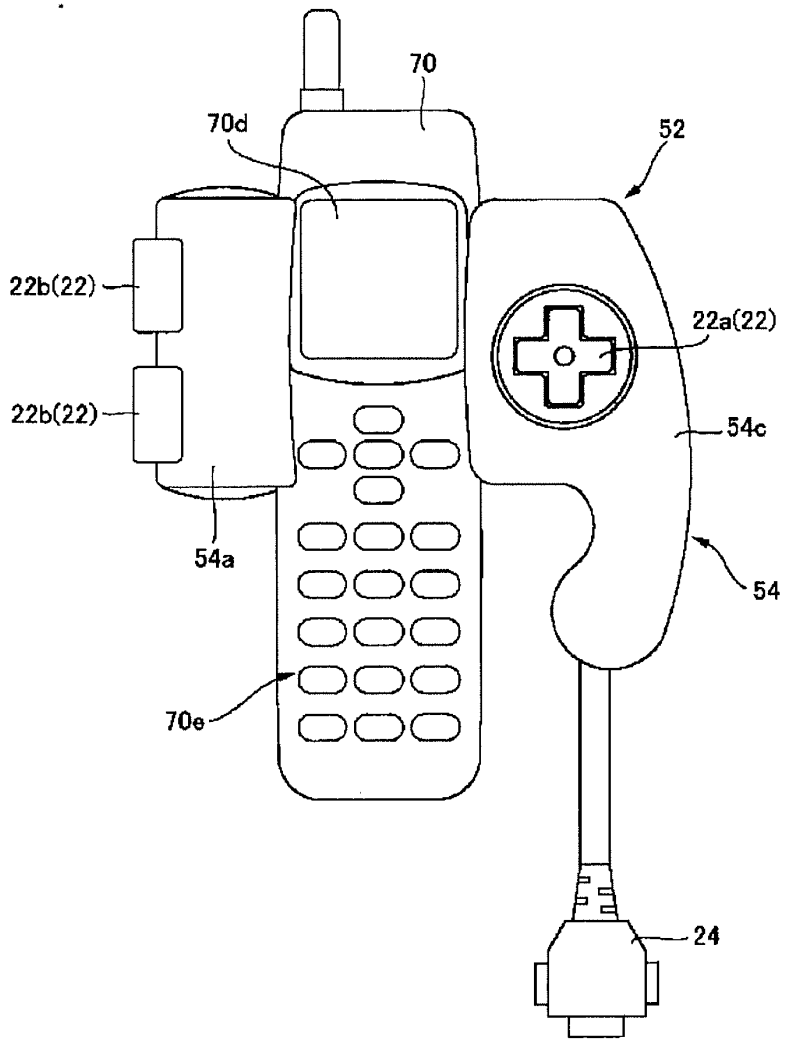
A [FIG. 24]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 209

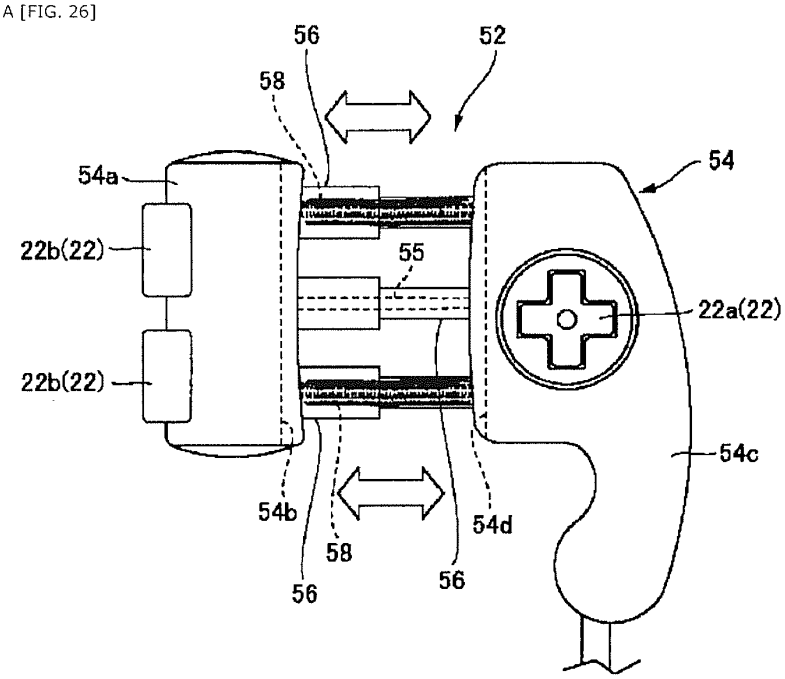


A [FIG. 25]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 210

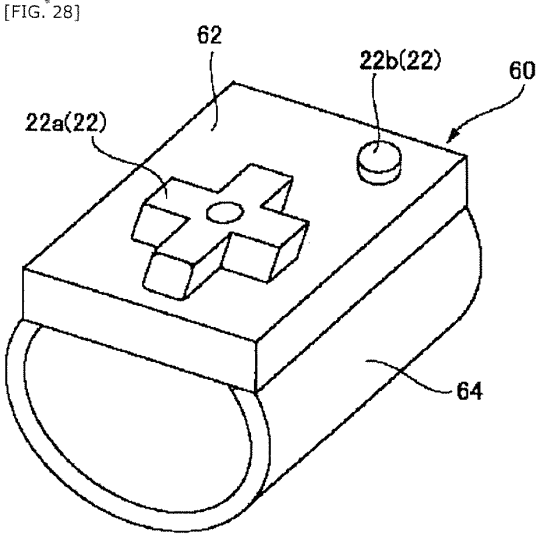


A [FIG. 26]

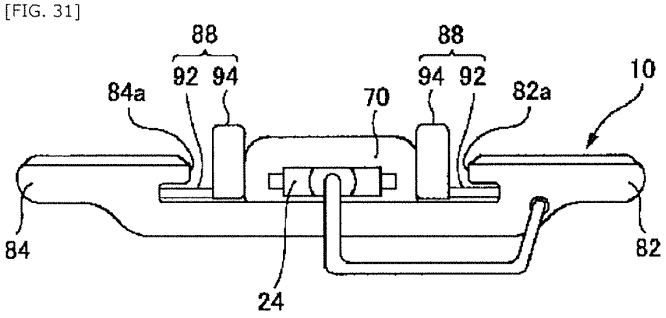


Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 211

A [FIG. 28]

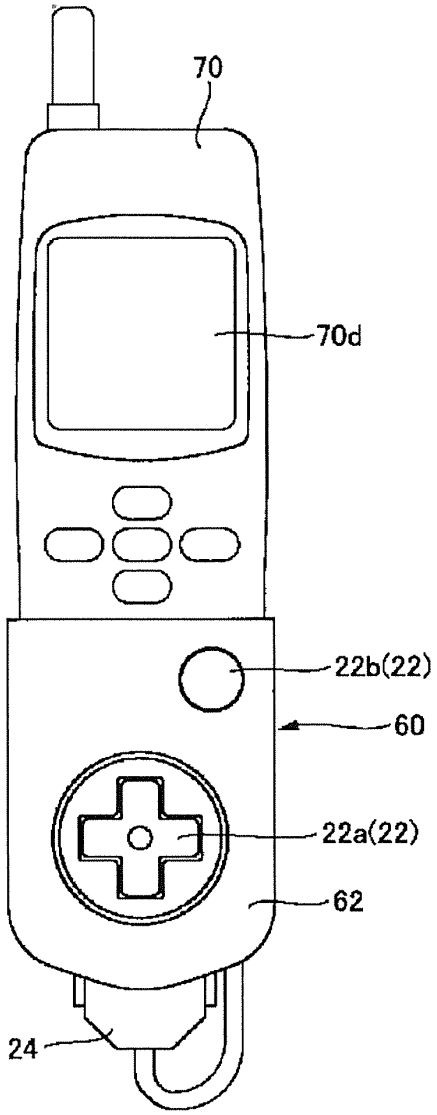


A [FIG. 31]



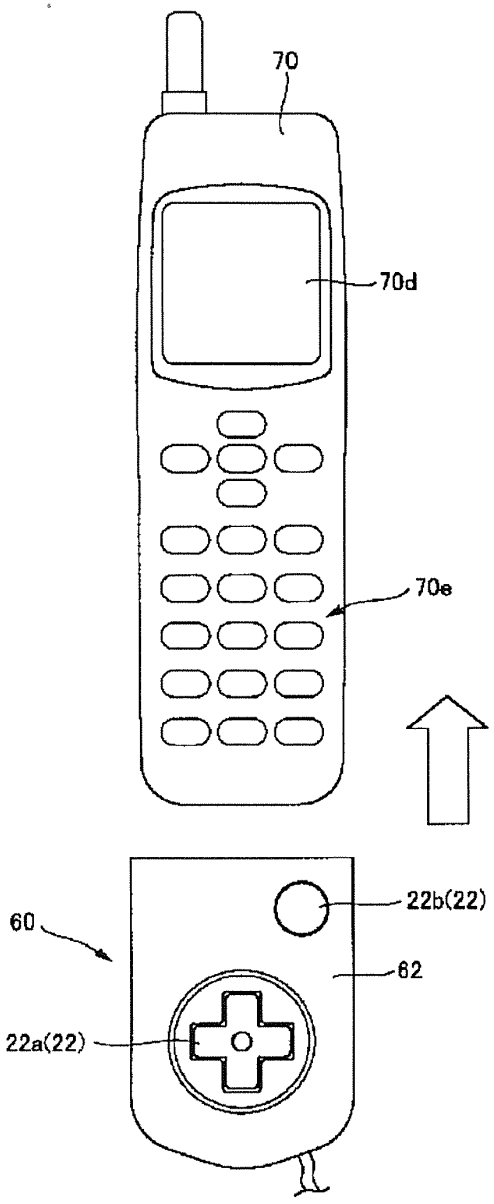
A [FIG. 27]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 212



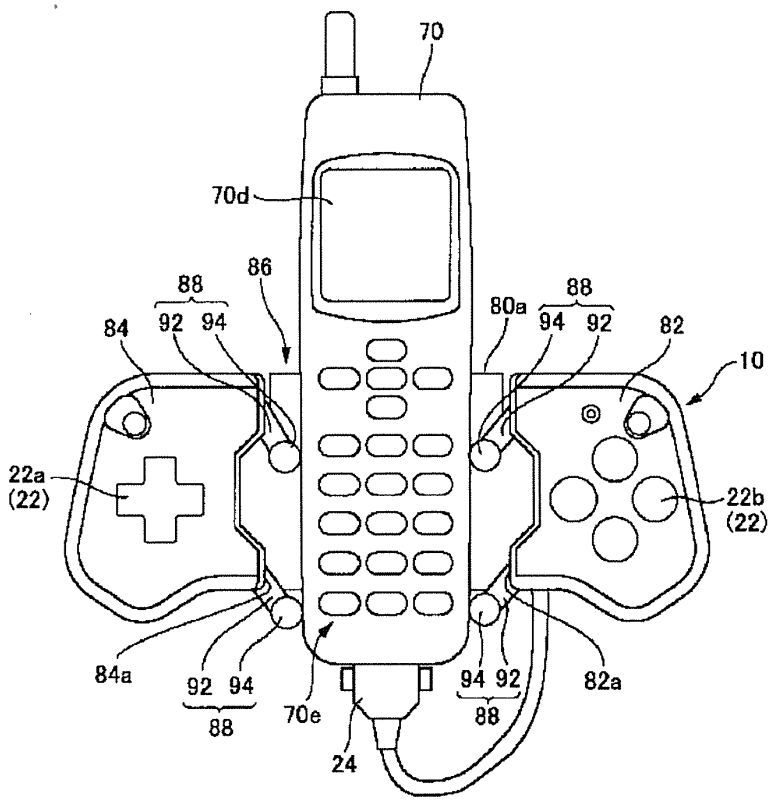
A [FIG. 29]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 213

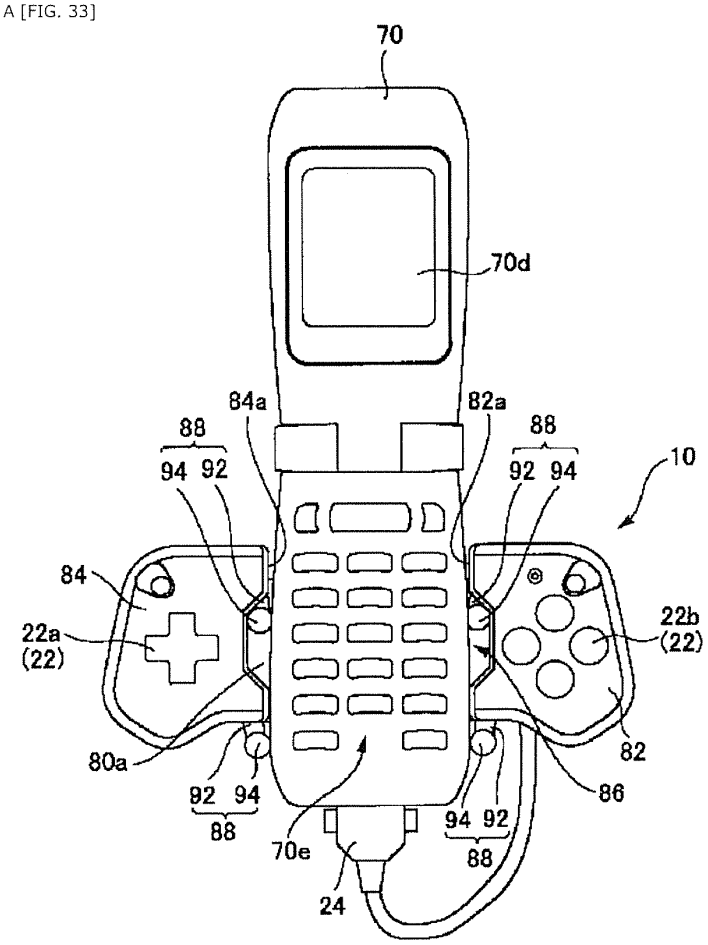


A [FIG. 30]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 214

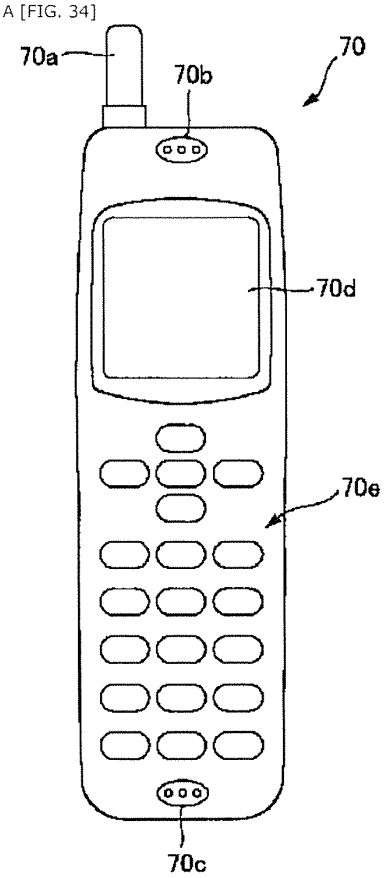


A [FIG. 33]



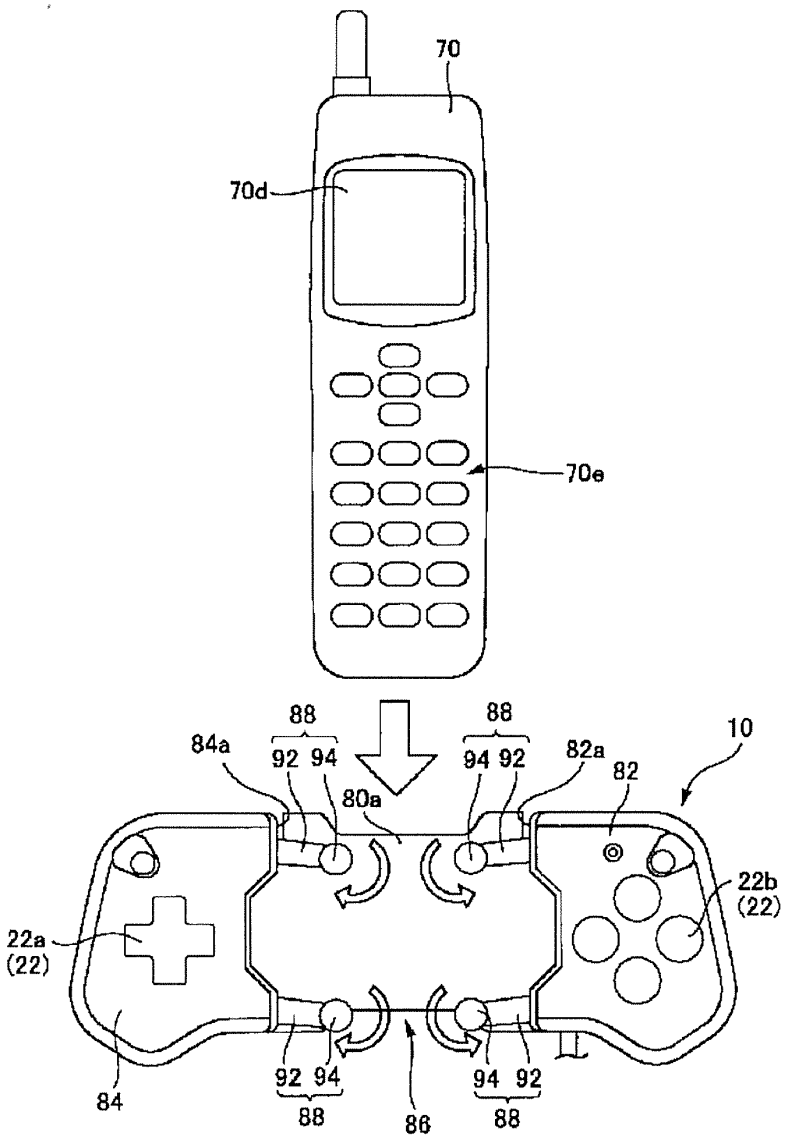
Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 215

A [FIG. 34]



A [FIG. 32]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 216



Previous Document 1/1 Next Docume

To return to the top of this

[Translation done.]

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 217

Unexamined Patent Publication(A)

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Unexamined Publication Date	20111026
Requested Date of Examination	20100420
Agent.	TAEDONG PATENT & LAW FIRM
Inventor	PARK,TAE-HYUN
Applicant	PARK,TAE-HYUN

발명의 명칭

휴대폰용 게임패드 장치

Title of Invention

Game Pad Device for Mobile Phone

요약

본 발명에 따른 휴대폰용 게임패드 장치는, 일 측에 키버튼을 구비한 제 1 본체와 상기 제 1 본체와 이격 형성되어 있는 것으로 일 측에 키 버튼이 형성되고 제 1 본체를 마주보는 측면에 휴대폰과 접속을 위한 연결단자를 구비한 제 2 본체 및 상기 제 1, 2 본체를 연결하는 것으로 길이조절이 가능하게 형성된 브릿지를 포함하여, 상기 제 1,2 본체는 접속 케이블에 의하여 전기적으로 연결이 되고 상기 브릿지의 상부 면에 휴대폰을 안착하되 휴대폰의 양 측에 상기 제 1, 2 본체가 각각 밀착 접촉된 것을 특징으로 한다.

본 발명에 따른 휴대폰용 게임패드 장치에 의하면, 액정에 가상으로 출력된 키 버튼을 대체하는 다수의 키 버튼을 구비한 게임패드를 외부에 장착하고 사용할 수 있어 조작의 편의성을 높이고, 액정이 사용자의 손으로 가려지지 않음으로 게임 실행 시 사실감을 높여주며, 휴대폰을 안정적으로 안착시킨 채 게임을 즐길 수 있도록 함과 동시에, 완충패드 혹은 커넥팅 어셈블리를 추가함으로써 휴대폰에 가해질 수 있는 손상을 최소화 할 수 있다는 장점을 가진다.

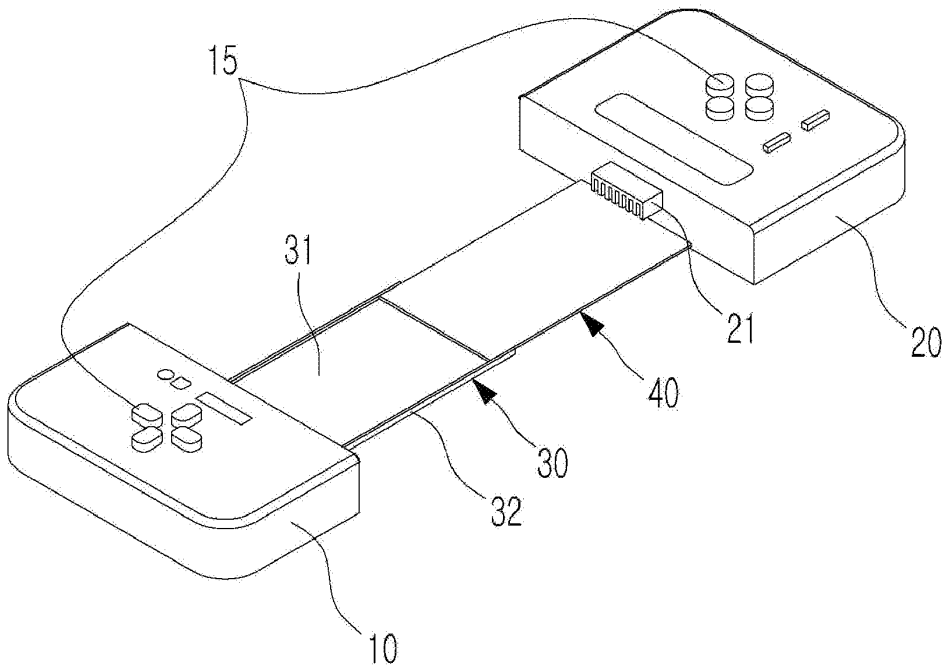
Abstract

As to the game pad apparatus for the cellular phone according to the present invention, first and second main body are adherently contacted with both sides of the first main body, including the key button in one side the second main body including the connection terminal for the cellular phone and connection in the side which with is separately formed with the first main body the key button is formed in one side and faces the first main body and cellular phone it is the cellular phone placed in the top surface of bridge first and second main body are electrically connected by the connection cable the bridge which is formed the length adjustment is possible is included first and second main body are connected.

According to the game pad apparatus for the cellular phone according to the present invention, equipped with multiple key buttons replacing the key button virtually outputted in the liquid crystal realism is enhanced in the game playing since the liquid crystal does not keep off with the hand of user and the game is enjoyed with settling the cellular phone in the steadily. Simultaneously it has the advantage that it can minimize the damage which can be applied in the cellular phone by adding the impact absorbing pad or the connecting assembly .

대표도면(Representative drawing)

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 218



청구의 범위

청구 1항:

휴대폰용 게임패드 장치로서,

일 측에 키버튼을 구비한 제 1 본체;

상기 제 1 본체와 이격 형성되어 있는 것으로 일 측에 키 버튼이 형성되고, 상기 제 1 본체를 마주보는 측면에 휴대폰과 접속을 위한 연결단자를 구비한 제 2 본체;

상기 제 1, 2 본체를 연결하는 것으로 길이조절이 가능하게 형성된 브릿지;를 포함하여,

상기 제 1,2 본체는 접속 케이블에 의하여 전기적으로 연결이 되고,

상기 브릿지의 상부 면에 휴대폰을 안착하되 휴대폰의 양 측에 상기 제 1, 2 본체가 각각 밀착 접촉된 것을 특징으로 하는, 휴대폰용 게임패드 장치.

청구 2항:

제 1항에 있어서,

상기 브릿지는,

상기 제 1 본체의 일 측면 하단에서 연결되는 것으로, 수평면으로 이루어진 베이스와 상기 베이스의 양 단에서 상부를 향해 일정 높이 절곡 형성된 측벽을 구비하며, 상기 측벽의 내측 면에

Scope of Claims

Claim 1:

The game pad apparatus for the cellular phone in which first and second main body are adherently contacted with both sides of the cellular phone it is the cellular phone placed in the top surface of

bridge with it is separately formed with the first main body :

first main body including the key button as the game pad apparatus for the cellular phone in

one side the key button is formed in one side ; with second main body :

first and second main body including the connection terminal for the cellular phone and connection in the side facing the first main body are connected the bridge which the length adjustment is possible is formed is included ; and

first and second main body are connected to the connection cable.

Claim 2:

As for claim 1, the game pad apparatus for the cellular phone wherein

bridge is made up of the second panel which protrusively forms ; and is inserted into

second panel to the sliding mode and is controllable to

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 219

길이방향으로 함입 연장된 가이드 홈과 상기 가이드 홈의 내부에 일정 간격을 두고 복수 개로 함입 형성된 걸림 홀을 포함하는 제 1 패널;

상기 제 2 본체의 일 측면 하단에서 연결되는 것으로, 양 측면에 상기 걸림 홀과 대응되는 크기의 돌기를 돌출 형성한 제 2 패널;로 구성되어,

상기 제 2 패널에 슬라이드 이동 방식으로 삽입되어 상기 걸림 홀과 상기 돌기의 결합으로 길이 조절 가능하게 고정되는 것을 특징으로 하는, 휴대폰용 게임패드 장치.

the length is fixed to the combination of the protrusion and barrier hole the protrusion of the size which one side lower part of the first panel :

second main body is connected ; and is corresponded to both sides to the barrier hole that includes the guide groove which is extended due to the inner side of the sidewall with invagination it includes the sidewall which is curve-cut in both ends of the base and the base consisting of the horizontal plane to the upper portion with a certain height it is connected and the barrier hole which puts the constant interval inside the guide groove and it is done by multiple the mouth is built up in one side lower part of

first main body.

청구 3항:

제 1항에 있어서,

상기 제 1 본체의 휴대폰 접촉면에 실리콘 및 우레탄 중 어느 하나의 재질로 이루어진 완충패드;가 추가로 구성된 것을 특징으로 하는, 휴대폰용 게임패드 장치.

Claim 3:

As for claim 1, the game pad apparatus for the cellular phone in which the impact absorbing pad made of one material in the cellular phone contact surface of

first main body among the silicone and urethane is additionally formed.

청구 4항:

제 1항에 있어서,

상기 제 1 본체는,

상기 제 1 본체의 휴대폰 접촉면에서 팽창 가능하게 장착되되, 일 측에 공기 유입구를 구비한 에어 튜브;

상기 에어 튜브의 표면에 장착되는 것으로 휴대폰이 접촉될 때 접촉 인식 신호를 발생시키는 접촉센서;

외부의 공기를 상기 제 1 본체의 내부로 유입시키는 팬;

상기 팬과 연결되어 상기 제 1 본체 내로 연장되되 상기 제 1 본체의 내부와 상기 에어튜브의 공기 유입구로 각각 분기된 공기 유통관;

상기 공기 유통관의 분기지점에 설치되어, 상기 분기된 각각의 공기 유통관을 선택 개폐하는 체크밸브;

상기 접촉센서의 접촉 인식 신호를 수신하는 접촉 인식 신호 수신부와, 상기 접촉 인식 신호 수신부의 지시를 받아 상기 팬의 작동을 제어하는 팬 구동부 및, 상기 팬 구동부가 구동될 때 체크 밸브의 개폐를 제어하는 체크밸브 제어부를 포함하는 컨트롤러;를 추가로 구비하는 것을 특징으로 하는, 휴대폰용 게임패드 장치.

Claim 4:

As for claim 1, the game pad apparatus for the cellular phone including with the controller, and additionally is connected to the fan :

fan and is extended within the first main body and includes the contact recognition signal receiving part, the fan driving part receiving the indication of the contact recognition signal receiving part and controls the operation of the fan, and the check valve control unit wherein:

first main body inflows to the inside of the first main body the air of the contact sensor :

outside that generates the contact acknowledge signal it enables to expand it is mounted in the cellular phone contact surface of

first main body; the contact recognition signal receiving part is installed at the diverging point of the air flowing tube :

air flowing tube which the respectively is branched to the inside of the first main body and air inlet of the air tube ; and receives the contact acknowledge signal of the check valve :

contact sensor which selectively opens and closes the above-mentioned branched each air flowing tube; and the check valve control unit controls opening and shutting of the check valve when the fan driving part is driven.

청구 5항:

제 4항에 있어서,

Claim 5:

As for claim 4, the game pad apparatus for the cellular phone in which additionally comprises the stopper flowi

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 220

상기 에어튜브의 표면에 내부 공기를 유출하도록 하는 마개가 추가로 구비된 것을 특징으로 하는, 휴대폰용 게임패드 장치.

ng the internal air out on the surface of

air tube.

기술분야

Technical Field

본 발명은 휴대폰용 게임패드 장치로써, 보다 상세히는 터치스크린 형 휴대폰과 접속하여 게임을 할 수 있도록 구성되며 휴대폰에 탈부착이 가능하여 필요에 따라 사용할 수 있도록 하고, 조작이 용이하며, 커넥팅 어셈블리를 구비하여 휴대폰을 안정적으로 안착시켜 편안하게 게임을 즐길 수 있음과 동시에 기타 편의적인 기능을 제공하는 휴대폰용 게임패드 장치에 관한 것이다.

The present invention relates to the game pad apparatus for the cellular phone the attaching/detachin g is possible and it uses in the cellular phone as necess ary while being formed in order to more specifically con nect with the touch screen type cellular phone and pla y a game as the game pad apparatus for the cellular ph one and the operation is facilitated and for providing th e skill convenient the other with it includes the connec ting assembly and it settles the cellular phone in the st eadily and it is comfortable enjoying the game.

배경기술

Background Art

국내 최초의 휴대폰은 1988년 서울올림픽 때 첫 선을 보인 삼성전자의 #39#SH-100#39#이라는 제품으로 길이 20㎝, 두께 4.6㎝, 무게가 0.7㎏이어서 #39#냉장고폰#39#이라는 별명을 얻기까지 했다. 그러나 그 이후 CDMA 휴대폰, 카메라폰, DMB폰, 손목 시계형 휴대폰 등으로 급진적으로 발전해 오다 최근에 들어서는 휴대폰의 버튼부를 없애고 전면을 터치스크린으로 구성한 터치스크린 형 휴대폰이 각광받고 있다. 이러한 터치스크린 형 휴대폰은 액정이 커서 DMB나 동영상을 볼 때 편리하고 무엇보다 외관이 미려하여 많은 이들의 사랑을 받으면서 점차 더 보급되어 가고 있는 추세이다.

And the length 20㎝, the thickness 4.6㎝, and the weight obtained the alias called the ' refrigerator phone ' this from the product called the 'SH-100' this of the S amsung Electronics in which the national initial cellular phone showed the first line in 1988 year Seoul Olympic with 0.7kg. But thereafter, the touch screen type cellul ar phone which radically has been developing into the CDMA cellular phone, camera phone, DMB phone, the w atch type cellular phone etc removes the button portio n of the cellular phone which recently enters and arran ges the front side with the touch screen stands in the spotlight. It is the trend that is gradually more distribut ed while it is convenient when the liquid crystal such t ouch screen type cellular phone is big and it sees DMB or the moving picture and the outer tube is beautiful a nd the liquid crystal receives many their love than the what.

그런데 이와 같은 터치스크린 형 폰으로 게임을 할 때에는 여러 가지 문제점을 가지게 된다. 일반적인 휴대폰은 키패드와 액정이 따로 분리가 되어 있어 화면이 가려지지 않지만, 터치스크린 형 휴대폰은 좌우, 상하 방향키를 포함하여 게임 실행을 위한 모든 버튼이 액정에 투명으로 표시가 되기 때문에 일반적인 휴대폰용 게임들은 이용하기 힘들고, 또한 게임 중 조작을 위해서는 액정을 손가락으로 터치하여야 하는데 이 과정에서 게임 화면을 가리게 되는 경우가 많을 뿐만 아니라 사용자의 터치보다 조금 늦게 반응되는 경우가 많아 답답함과 불편함을 초래하였다.

But it has many problems when playing a game with this kind of the touch screen type phone. As to the ge neral cellular phone, the keypad and liquid crystal were separately separated and the screen did not cover. Ho wever the touch screen type cellular phone dictated a nd it was hard that the general games for the cellular p hone used because up and down direction key were inc luded and all buttons for the game playing were indicat ed as the transparency on the liquid crystal and in addi tion there is much case of to touching the liquid crystal to finger but in this process, covering the game screen among moreover, the game for the operation the incon venience was caused. There is much case of the slowe r being a little reacted than the touch of the user and i t was stuffy.

이러한 문제점을 보완하기 위하여 국내 특허 출원 제 20-2009-0011978호 #39#휴대전화에 키보드와 마우스를 연결하는 연결장치#39#가 게시되어 있는 것을 알 수 있다.

It can know that the connection apparatus ' which connects the keyboard and mouse to 20-2009-001197 8 A ' mobile telephone in order to complement such pro blem is noticed.

상기 기술에서 키보드와 마우스를 게임용 키패드로 치환하여 사용하는 것을 고려해 볼 수 있으나 별도의 케이블 선을 이용하여 본체의 외부에 키패드가 구성된다는 점을 감안하여 볼 때에 사용자의 파지감과 편리한 조작감을 제공할 수 없다는 불편함이 존재하게 된다.

In technology, the inconvenience that it cannot provide the waste paper feeling and the convenient ma nipulation feeling of the user when looking in considerat ion of the point the keyboard and mouse are substitute d to for game use keypad that it can look at but the ke

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 221

ypad is made up using the separate cable outside the main body exists.

또한 국내 특허 출원 제 10-2001-0031774호 #39#개인용 휴대 단말기와 접속되는 게임 패드#39#는 위에서 나열한 여러 가지 문제점을 보완하여 편리한 조작감을 제공하고 있으나 휴대 단말기를 #39#개인용 휴대 단말기와 접속되는 게임 패드#39#에 장착하고 탈착하는 과정에서 휴대 단말기의 하드웨어 상에 많은 손상을 줄 위험이 있고 게임 중 휴대 단말기가 이탈될 수 있다는 단점이 있다.

Moreover, it has the danger providing the manipulation feeling in which the game pad ' connected with 10-200 1-0031774 A ' PDA supplements many problems that en umerates in the upper part and which is convenient but gives many damage in the process of mounting the por table terminal to the game pad ' connected with the ' P DA and attaching and detaching on the hardware of th e portable terminal and the danger has the disadvantag e that the portable terminal can be broken away from a mong the game.

따라서 상기 기술한 여러 가지 단점을 동시에 보완할 수 있는 보다 신규하고 진보한 휴대폰용 게임패드 장치를 제공할 필요성이 대두되는 실정이다.

Therefore, the necessity to provide the game pad apparatus for the cellular phone which is novel from mo re and progresses for simultaneously supplementing the above-mentioned many defect of describing emerges.

발명의 내용

Summary of Invention

해결하고자 하는 과제

Problem to be solved

본 발명은 상기 기술의 문제점을 극복하기 위해 안출된 것으로, 일 측에 키버튼을 구비한 제 1 본체와 상기 제 1 본체와 이격 형성되어 있는 것으로 일 측에 키 버튼이 형성되고 ,제 1 본체를 마주보는 측면에 휴대폰과 접속을 위한 연결단자를 구비한 제 2 본체 및 상기 제 1, 2 본체를 연결하는 것으로 길이조절이 가능하게 형성된 브릿지를 포함하여, 상기 제 1,2 본체는 접속 케이블에 의하여 전기적으로 연결이 되고, 상기 브릿지의 상부면에 휴대폰을 안착하되 휴대폰의 양 측에 상기 제 1, 2 본체가 각각 밀착 접촉된 것을 특징으로 하는, 휴대폰용 게임패드 장치를 제공하는 것을 주요 목적으로 한다.

It is done by the main object that the invention provides the game pad apparatus for the cellular phone in which first and second main body are adherently contacted with both sides of the first main body, which includes the key button in one side it is devised it overcomes the problem of technology the second main body including the connection terminal for the cellular phone and connection in the side which with is separately formed with the first main body the key button is formed in one side and faces the , first main body and cellular phone it is the cellular phone placed in the top surface of bridge first and second main body are electrically connected by the connection cable the bridge which is formed the length adjustment is possible is included first and second main body are connected.

본 발명의 다른 목적은 상기 브릿지는, 수평면으로 이루어진 베이스와 상기 베이스의 양 단에서 상부를 향해 일정 높이 절곡 형성된 측벽을 구비하며, 상기 측벽의 내측 면에 길이방향으로 함입 연장된 가이드 홈과 상기 가이드 홈의 내부에 일정 간격을 두고 복수 개로 함입 형성된 걸림 홀을 포함하는 제 1 패널과, 양 측면에 상기 걸림 홀과 대응되는 크기의 돌기를 돌출 형성한 제 2 패널로 구성되어, 상기 제 2 패널에 슬라이드 이동 방식으로 삽입되어 상기 걸림 홀과 상기 돌기의 결합으로 길이 조절 가능하게 고정되도록 하는 것이다.

Another object of the present invention is that in both ends of the base and the base consisting of the horizontal plane, bridge includes the sidewall which the constant height is curve-cut to the upper portion and it is made up of the guide groove extended due to the inner side of the sidewall in a longitudinal direction and the first panel, which puts the constant interval inside the guide groove and it is done by multiple includes the barrier hole which the mouth is built up and the second panel which protrusively forms the protrusion of the size corresponded to both sides to the barrier hole and it is inserted into the second panel to the sliding mode and it is controllable to the length the length is fixed to the combination of the protrusion and barrier hole.

본 발명의 또 다른 목적은 상기 제 1 본체의 휴대폰 접촉면에 실리콘 및 우레탄 중 어느 하나의 재질로 이루어진 완충패드를 추가로 구비하여 휴대폰에 가해질 수 있는 손상을 최소화하는 것이다.

Another object of the present invention additionally includes the impact absorbing pad consisting of one material in the cellular phone contact surface of the first main body among the silicone and urethane and the damage which can be applied is minimized in the cellular phone.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 222

본 발명의 추가 목적은 상기 제 1 본체의 휴대폰 접촉면에서 팽창 가능하게 장착되되, 일 측에 공기 유입구를 구비한 에어 튜브와 상기 에어 튜브의 표면에 장착되는 것으로 휴대폰이 접촉될 때 접촉 인식 신호를 발생시키는 접촉센서, 외부의 공기를 상기 제 1 본체의 내부로 유입시키는 팬 및 상기 팬과 연결되어 상기 제 1 본체 내로 연장되되 상기 제 1 본체의 내부와 상기 에어튜브의 공기 유입구로 각각 분기된 공기 유통관, 상기 공기 유통관의 분기지점에 설치되어 상기 분기된 각각의 공기 유통관을 선택 개폐하는 체크밸브를 포함하며, 상기 접촉센서의 접촉 인식 신호를 수신하는 접촉 인식 신호 수신부와, 상기 접촉 인식 신호 수신부의 지시를 받아 상기 팬의 작동을 제어하는 팬 구동부 및, 상기 팬 구동부가 구동될 때 체크 밸브의 개폐를 제어하는 체크밸브 제어부로 구성되는 컨트롤러를 추가로 구비하도록 하는 것이다.

It enables to expand the additional purpose of the invention is mounted in the cellular phone contact surface of the first main body. The check valve which is connected to the air tube including the air inlet in one side and the contact sensor which generates the contact acknowledge signal when with the selectively opens and closes the above-mentioned branched each air flowing tube check valve is mounted on the surface of the air tube the cellular phone is contacted, and the hollowed fan making flow in the external air to the inside of the first main body and is extended within the first main body and is installed in the air flowing tube which the respectively is branched to the inside of the first main body and air inlet of the air tube, and the diverging point of the air flowing tube and is included and the controller consisting of the contact recognition signal receiving part, receiving the contact acknowledge signal of the contact sensor and the fan driving part, receiving the indication of the contact recognition signal receiving part and controls the operation of the fan and the check valve control unit which controls opening and shutting of the check valve when the fan driving part is driven is additionally included.

본 발명의 추가 목적은 상기 에어튜브의 표면에 내부 공기를 유출하도록 하는 마개가 추가로 구비하여 사용자가 손쉽게 에어튜브 내의 공기를 배출시킬수 있도록 하는 것이다.

The stopper in which the additional purpose of the invention flows the internal air out on the surface of the air tube includes the additionally and the user easily discharges the air within the air tube.

과제해결 수단

Means to solve the problem

상기 목적을 달성하기 위하여, 본 발명에 따른 휴대폰용 게임패드 장치는, 일 측에 키버튼을 구비한 제 1 본체와 상기 제 1 본체와 이격 형성되어 있는 것으로 일 측에 키 버튼이 형성되고 제 1 본체를 마주보는 측면에 휴대폰과 접속을 위한 연결단자를 구비한 제 2 본체 및 상기 제 1, 2 본체를 연결하는 것으로 길이조절이 가능하게 형성된 브릿지를 포함하여, 상기 제 1,2 본체는 접속 케이블에 의하여 전기적으로 연결이 되고, 상기 브릿지의 상부 면에 휴대폰을 안착하되 휴대폰의 양 측에 상기 제 1, 2 본체가 각각 밀착 접촉된 것을 특징으로 한다.

To accomplish the above objects, as to the game pad apparatus for the cellular phone according to the present invention, first and second main body are adherently contacted with both sides of the first main body, including the key button in one side the second main body including the connection terminal for the cellular phone and connection in the side which with is separately formed with the first main body the key button is formed in one side and faces the first main body and cellular phone it is the cellular phone placed in the top surface of bridge first and second main body are electrically connected by the connection cable the bridge which is formed the length adjustment is possible is included first and second main body are connected.

또한 상기 브릿지는, 수평면으로 이루어진 베이스와 상기 베이스의 양 단에서 상부를 향해 일정 높이 절곡 형성된 측벽을 구비하며, 상기 측벽의 내측 면에 길이방향으로 함입 연장된 가이드 홈과 상기 가이드 홈의 내부에 일정 간격을 두고 복수 개로 함입 형성된 걸림 홀을 포함하는 제 1 패널과 양 측면에 상기 걸림 홀과 대응되는 크기의 돌기를 돌출 형성한 제 2 패널로 구성되어, 상기 제 2 패널에 슬라이드 이동 방식으로 삽입되어 상기 걸림 홀과 상기 돌기의 결합으로 길이 조절 가능하게 고정되는 것을 특징으로 한다.

Moreover, in both ends of the base and the base consisting of the horizontal plane, bridge includes the sidewall which the constant height is curve-cut to the upper portion and it is made up of the guide groove, extended due to the inner side of the sidewall in a longitudinal direction the first panel which puts the constant interval inside the guide groove and it is done by multiple includes the barrier hole which the mouth is built up and the second panel which protrusively forms the protrusion of the size corresponded to both sides to the barrier hole and it is inserted into the second panel to the sliding mode and it is controllable to the length the length is fixed to the combination of the protrusion and barrier hole.

또한 상기 제 1 본체의 휴대폰 접촉면에 실리콘 및 우레탄 중

Moreover, the impact absorbing pad made of one

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 223

어느 하나의 재질로 이루어진 완충패드가 추가로 구성된 것을 특징으로 한다.

material in the cellular phone contact surface of the first main body among the silicone and urethane consists of the addition.

더불어 상기 제 1 본체는, 상기 제 1 본체의 휴대폰 접촉면에서 팽창 가능하게 장착되되 일 측에 공기 유입구를 구비한 에어 튜브와 상기 에어 튜브의 표면에 장착되는 것으로 휴대폰이 접촉될 때 접촉 인식 신호를 발생시키는 접촉센서, 외부의 공기를 상기 제 1 본체의 내부로 유입시키는 팬, 상기 팬과 연결되어 상기 제 1 본체 내로 연장되되 상기 제 1 본체의 내부와 상기 에어튜브의 공기 유입구로 각각 분기된 공기 유통관 및 상기 공기 유통관의 분기지점에 설치되어, 상기 분기된 각각의 공기 유통관을 선택 개폐하는 체크밸브, 상기 접촉센서의 접촉 인식 신호를 수신하는 접촉 인식 신호 수신부와 상기 접촉 인식 신호 수신부의 지시를 받아 상기 팬의 작동을 제어하는 팬 구동부 및 상기 팬 구동부가 구동될 때 체크 밸브의 개폐를 제어하는 체크 밸브 제어부를 포함하는 컨트롤러를 추가로 구비하는 것을 특징으로 한다.

In addition, the first main body includes the additionally the controller including the air tube which includes the air inlet in one side it is mounted in the cellular phone contact surface of the first main body enable to expand and the contact sensor which with is mounted on the surface of the air tube generates the contact acknowledge signal when the cellular phone is contacted, the fan making flow in the external air to the inside of the first main body, and the fan, and the check valve which selectively opens and closes the above-mentioned branched each air flowing tube the check valve are installed in the diverging point of the air flowing tube and the air flowing tube which the respectively is branched to the inside of the first main body and air inlet of the air tube it is extended within the first main body the check valve are connected, and the fan driving part which controls the operation of the fan it receives the indication of the contact recognition signal receiving part and the contact recognition signal receiving part receiving the contact acknowledge signal of the contact sensor and the check valve control unit which controls opening and shutting of the check valve when the fan driving part is driven.

더불어 상기 에어튜브의 표면에 내부 공기를 유출하도록 하는 마개가 추가로 구비된 것을 특징으로 한다.

In addition, the additionally comprises the stopper flowing the internal air out on the surface of the air tube.

발명의 효과

Effects of the Invention

본 발명에 따른 휴대폰용 게임패드 장치에 의하면,

According to the game pad apparatus for the cellular phone according to the present invention.

1) 액정에 가상으로 출력된 키 버튼을 대체하는 다수의 키 버튼을 구비한 게임패드를 외부에 장착하고 사용할 수 있어 조작의 편의성을 높이고,

1) Equipped with multiple key buttons replacing the key button virtually outputted in the liquid crystal.

2) 액정이 사용자의 손으로 가려지지 않음으로 게임 실행 시 사실감을 높여주며,

2) Realism is enhanced in the game playing since the liquid crystal does not keep off with the hand of user.

3) 휴대폰을 안정적으로 안착시킨 채 게임을 즐길 수 있도록 함과 동시에,

3) The game is enjoyed with settling the cellular phone in the steadily.

4) 완충패드 혹은 커넥팅 어셈블리를 추가함으로써 휴대폰에 가해질 수 있는 손상을 최소화 할 수 있다.

4) By adding the impact absorbing pad or the connecting assembly the damage which can be applied can be minimized in the cellular phone.

발명을 실시하기 위한 구체적인 내용

Description of Embodiments

이하 첨부된 도면을 참조하여 본 발명의 바람직한 실시예를 상세하게 설명하도록 한다. 첨부된 도면은 축척에 의하여 도시되지 않았으며, 각 도면의 동일한 참조 번호는 동일한 구성 요소를 지칭한다.

Specifically the attached preferred embodiment of the invention is hereinafter illustrated. Attached drawing w as not illustrated with scale and the element in which t he same reference number of each drawing is identical i s named.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 224

도 1은 본 발명에 따른 휴대폰용 게임패드 장치에 대한 기본 구성을 나타낸 사시도이다.

Figure 1 is a perspective view showing the basic configuration about the game pad apparatus for the cel lular phone according to the present invention.

도 1을 보아 알 수 있듯이, 본 발명에 따른 휴대폰용 게임패드 장치는, 일 측(바람직하게는 상부 면)에 키버튼(15)이 마련되는 제 1 본체(10)와, 상기 제 1 본체(10)와 이격 형성되어 있는 것으로 일 측(바람직하게는 상부 면)에 키버튼(15)이 마련되고 제 1 본체(10)와 대향되는 측면 일정 부위에 연결단자(21)를 구비한 제 2 본체(20) 및, 상기 제 1 본체(10)와 제 2 본체(20)를 연결하도록 구성된 브릿지(30,40), 상기 브릿지(30,40)의 내부 일정 부위를 따라 이어지되 양 단에서 제 1, 2 본체(10,20)와 각각 연결된 접속 케이블(미도시)을 기본적으로 포함하고 있다.

Fig. 1 is looked at and it can know as if the game pad apparatus for the cellular phone according to the prese nt invention is connected according to the first main b ody (10) in which the key button (15) is prepared in on e side (preferably, the top surface) and bridges (30,40) which are configured to be separately formed and conn ect the second main body (20), equipped with the con nection terminal (21) and the first main body (10) and the second main body (20) to the first main body (10) and the side specified region with is separately formed i n which the key button (15) is prepared in one side (pr eferably, the top surface) and which is faced with the first main body (10), and the inside specified region of bridges (30,40) and the connection cable (not illustrate d) connected to first and second main bodies (10,20) i n both ends the elementarily is included.

상기 제 1 본체(10)는 일정 높이를 가진 직육면체의 형상으로, 일 측 둘레는 사용자의 편안한 파지감과 안전을 위해 라운딩 처리되도록 형성하는 것이 바람직할 것이나 상기 제 1 본체(10)의 모양은 일정한 것에 국한되지 않는다. 또한 이 제 1 본체(10)는 상부 면에 복수개의 키버튼(15)을 구비하고 있는데, 이 키버튼(15)은 사각형, 원 등 여러 가지 모양으로 형성될 수 있으며 그 배열로써 나타나는 형상 또한 다양한 응용이 가능하고 조이 스틱이 추가로 구성될 수 있다. 상기 제 1 본체(10)는 일 측면의 하단에서 상기 브릿지(30,40)와 연결된다.

It will do that one side circumference forms into the shape in which the first main body (10) has the consta nt height of the rectangular parallelepiped in order to b e rounded for the waste paper feeling and the comfort able safety of the user but the shape of the first main body (10) is constant it is not limited. Moreover, this fir st main body (10) includes multiple key buttons (15) in the top surface. The application possibility and the tub which the shape in which this key button (15) shows u p as the arrangement while being formed into many sha pe including the square, the circle etc. is moreover vari ed of the stick can be additionally made up. In the first main body (10) is the lower part of one side, it is conn ected to bridges (30,40).

상기 제 2 본체(20)는 기본적으로 제 1 본체(10)와 대응되는 형상으로 구성되나 제 1 본체(10)와 마주보는 측면의 일정 부위에 연결단자(21)를 추가로 구비하는데, 상기 연결단자(21)는 휴대폰(1) 상에 외부 장치와 연결되도록 형성된 인터페이스 커넥터와 접속하여 본 발명에 따른 키버튼(15)에서 입력된 신호를 휴대폰(1)에 인가하는 기능을 하며, 상기 제 2 본체(20) 역시 일 측면의 하단에서 상기 브릿지(30,40)와 연결된다.

The connection terminal (21) is additionally included in the specified region of the side in which the second ma in body (20) is formed of the shape elementarily corres ponded to the first main body (10) but facing to the fir st main body (10). The signal inputted to the key butto n (15) according to the invention connecting with the i nterface connector which is formed so that the connec tion terminal (21) is connected to the external device o n the cellular phone (1) functions to be applied in the c ellular phone (1) and also the signal is connected in the lower part of one side to bridges (30,40).

또한 제 2 본체(20)의 키버튼(15)은 요구되는 기능에 따라 제 1 본체(10)의 키버튼(15)과 다른 형상으로 구성될 수 있고 역시 조이 스틱이 추가로 구성될 수 있다. 일례로, 제 1 본체(10)의 키버튼(15)은 십자가 모양으로 형성되어 상하좌우 위치이동 기능을 하도록 구성하고, 제 2 본체(20)의 키버튼(15)은 원 모양으로 복수 개를 형성하여 게임 프로그램 내에서 일정 작용을 할 수 있도록 구성할 수 있다. 그러나 상기 키버튼(15)의 형상과 기능이 특정한 것에 국한되지 않음은 물론이다.

Moreover, the key button (15) of the second main body (20) comprises the shape different according to t he function of being required from the key button (15) of the first main body (10). And also the tub of the stic k can be additionally made up. For example, it configur es so that it is formed with the shape of cross and the key button (15) of the first main body (10) up and dow n/left and right location mobile function and it can conf igure so that multiple is formed into the circle shape an d the key button (15) of the second main body (20) ac ts in the game program. But the shape and function of the key button (15) specify function are not limited it i s of course.

제 1, 2 본체(10,20)에 대한 전기적 연결 방식은 후술하겠지만, 상기 제 1, 2 본체(10,20)에서는, 사용자가 상부 면에 형성된 키버튼(15)을 누름으로써 신호를 생성시키고, 생성된 신

The electrical connection method about first and second main bodies (10,20) will describe later. However the signal the key button (15) in which of the user is f

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 225

호는 제 2 본체(20)에 구비된 연결단자(21)를 통해 휴대폰(1) 내에서 가동되는 게임 소프트웨어에 전달되어 본 발명에 따른 휴대폰용 게임패드 장치의 기본적 기능을 수행할 뿐만 아니라, 상기 제 1, 2 본체(10,20)는 상기 브릿지(30,40)와 함께 본 발명에 따른 휴대폰용 게임패드 장치에 휴대폰(1)을 안착시키는 역할을 한다.

ormed in the top surface is generated in first and second main bodies (10,20) as the pressing and the generated signal performs the basic function of the game pad apparatus for the cellular phone according to the invention conducted to the operated game software through the connection terminal (21) equipped in the second main body (20) in the cellular phone (1). In addition first and second main bodies (10,20) serve to settle the cellular phone (1) in the game pad apparatus for the cellular phone according to the present invention with bridges (30,40).

도 2(a)는 본 발명에 따른 브릿지의 구성을 도시한 사시도이고, 도 2(b)는 본 발명에 따른 브릿지의 구성을 도시한 종단면도이다.

It is the perspective drawing in which Figure 2(a) shows the configuration of the bridge according to the present invention. It is the cross-sectional view in which Figure 2(b) shows the configuration of the bridge according to the present invention.

상기 브릿지(30,40)는 기본적으로 장변과 단변을 구비한 직육면체와 유사한 형태로서, 제 1,2 본체(10,20)를 기계적, 전기적으로 연결함과 동시에 길이 조절이 가능하도록 형성되어 있다.

As the form in which bridges (30,40) are elementarily similar to the long side and the rectangular parallelepiped equipped with the short side, with connecting electrically first and second main bodies (10,20) it is formed so that the length adjustment is possible.

이러한 기능들을 적합하게 수행하기 위해서, 이 브릿지(30,40)는 제 1, 2 패널로 나누어 구성할 수 있는데, 제 1 패널(30)은 제 1 본체(10)의 일 측면 하단에서 연결된 것으로 수평면으로 이루어진 베이스(31)와, 이 베이스(31)의 양단에서 상부를 향해 일정 높이 절곡 형성된 측벽(32)을 구비하며, 이 측벽(32)의 내 측면에 길이 방향으로 함입 연장된 가이드홈(32a)과, 상기 가이드홈(32a)의 내부에 복수 개로 함입 형성된 걸림 홀(32b)을 추가로 구비하도록 한다. 이 걸림 홀(32b)은 후술할 돌기(41)를 수용하는 홈으로써 길이 방향을 따라 일정 간격을 두고 복수 개로 형성된다.

In order that is suitable such functions are performed it divides into first and second panel and this bridges (30,40) can configure. One side lower part of the first main body (10) the first panel (30) is connected and the base (31), consisting of the horizontal plane and the sidewall (32) that is curve-cut in both ends of the evase (31) to the upper portion with a certain height are included and it is done by multiple the barrier hole (32b) which the mouth is built up is additionally included inside the guide groove (32a), extended due to the inner side of this sidewall (32) in a longitudinal direction and guide groove (32a). The constant interval is along the longitudinal direction put and this barrier hole (32b) is formed as the groove accommodating the protrusion (41) which will be described later into multiple.

상기 측벽(32)은 내외 측으로 일정 간격 움직일 수 있어야 하므로 상기 제 1 패널(30)은 탄성이 있는 재질로 형성되는 것이 바람직하다.

It is the be desirable that it is formed into the material in which the first panel (30) is elastic since the sidewall (32) can move to inside and outside with a certain interval it does.

제 2 패널(40)은 제 2 본체(20)의 일 측면 하단과 연결된 것으로 상기 제 1 패널(30)의 베이스(31)와 측벽(32) 사이에서 슬라이딩 이동 방식으로 결합 되는 것으로서, 양 측면 일정 부위에는 상기 걸림 홀(32b)과 대응되는 크기로 돌출 형성된 2 내지 4개의 돌기(41)를 구비한다.

The second panel (40) comprises one side lower part of the second main body (20), the base (31) of the first panel (30) it is connected, and the protrusion (41) of 2 which is combined between the sidewall (32) to the sliding movement mode and is protruded to the size corresponded in both sides specified region to the barrier hole (32b). Through 4.

접속 케이블은 제 1, 2 본체(10,20)를 전기적으로 연결하는 것으로, 이격된 제 1, 2 본체(10,20)를 전기적으로 통합하여 통합된 신호를 연결단자(21)를 매개로 휴대폰(1)으로 인가하기 위한 기반을 제공하는 기능을 하며, 제 1 본체(10)와 접속되어 브릿지(30,40)의 내부 일정 부위를 따라 이어져 제 2 본체(20)에 연결된다.

The connection cable connects electrically first and second main bodies (10,20). Separated first and second main bodies (10,20) are electrically integrated and the integrated signal the base for applying functions to be provided by the medium of the connection terminal (21) to the cellular phone (1) and it is connected to the first main body (10) and it is connected according to the inside specified region of bridges (30,40) and the signal is connected to the second main body (20).

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 226

또한 상기 접속 케이블 없이, 제 1, 2 본체(10,20)의 일정 부위에 단자를 구비하고, 외부에 구비된 별도의 케이블의 각 단에 상기 단자들을 연결하는 방법으로도 상기 제 1, 2 본체(10,20)의 전기적 접속이 가능하다.

Moreover, the terminal is included without the connection cable in the specified region of first and second main bodies (10,20) and the electrical connection of first and second main bodies (10,20) is possible with the method for connecting terminals to each shift of the separate cable equipped in the outside.

도 3은 본 발명에 따른 휴대폰용 게임패드 장치에 휴대폰을 장착한 형상을 나타낸 결합 사시도이다.

Figure 3 is a combination perspective view showing the shape mounting the cellular phone to the game pad apparatus for the cellular phone according to the present invention.

도 3을 참고하여 바람직한 실시예를 설명하면, 기본적으로 제 1 패널(30)의 가이드홈(32a)에 제 2 패널(40)이 끼워져서 슬라이드 형식으로 움직일 수 있도록 구성되어 있고, 사용자가 휴대폰(1)을 장착코자 할 시에는 상기 1, 2 패널을 좌우로 늘려 휴대폰(1)이 여유롭게 안착될 수 있는 공간을 마련한다. 그 다음, 제 2 본체(20)에 구비된 연결단자(21)와 휴대폰(1)에 형성된 인터페이스 커넥터를 접속시키고, 제 1, 2 패널을 상호 모아주는 방식으로 길이를 점차로 단축시키다가, 사용자가 원하는 길이가 형성되면 그 위치에서 상기 걸림 홀(32b)에 상기 돌기(41)를 끼워 고정시킨다. 또한 제 1 패널(30)의 돌출부를 외측으로 당겨 돌기(41)가 걸림 홀(32b)에서 빠져 나갈 수 있도록 함으로써 길이를 다시 연장할 수 있다.

If the preferred embodiment is illustrated fig. 3 in order to the second panel (40) be elementarily inserted in the guide groove (32a) of the first panel (30) and it moves to the slide form it is formed and when the user tries to mount the cellular phone (1) it is from side to side increased 1, 2 panel and the space in which the cellular phone (1) can be comfortably settled is prepared for. Next, the formed interface connector is connected to the connection terminal (21) and the cellular phone (1) equipped in the second main body (20) and when the length is gradually shortened about the mode gathering first and second panel reciprocity if the desired length is formed the protrusion (41) is inserted in the barrier hole (32b) and it fixes in the position. Moreover, the protrusion part of the first panel (30) is pulled toward the outside and since the protrusion (41) is gone in the barrier hole (32b) the length can be again extended.

상기 방식으로 길이 조절과 그에 따른 고정이 가능한 이 브릿지(30,40)는 연결단자(21)에 의해 휴대폰(1)과 연결된 제 2 본체(20)와 제 1 본체(10)를 전기적, 기계적으로 연결하고, 본 발명에 따른 장치에 휴대폰(1)을 장착하였을 때 휴대폰(1)의 하부 면에 위치하여 휴대폰(1)을 지지하는 역할을 한다.

The second main body (20) and the first main body (10) in which this bridges (30,40) in which the mode the length adjustment and fixing according to it are possible are connected to the connection terminal (21) to the cellular phone (1) are mechanically connected with electrical and when mounting the cellular phone (1) to the apparatus according to the present invention, it is positioned in the lower surface of the cellular phone (1) and the cellular phone (1) serves to be supported.

상기 구성으로도 본 발명에 따른 장치에 휴대폰(1)을 장착하여 사용하는 데에 큰 문제는 없지만, 더 나아가 보면 상기 구성으로는 휴대폰(1)과 본 발명에 따른 장치의 밀착감이 떨어지므로, 게임 중 휴대폰(1)이 유격되거나 극한 경우 이탈되어 안정적이고 편안한 게임 조작을 저해할 수 있다는 단점이 여전히 존재한다. 또한, 사용자가 상기 단점을 보완하기 위해 휴대폰(1)의 길이보다 브릿지(30,40)의 길이를 무리하게 줄이게 되면 제 1,2 본체가 휴대폰(1)에 압력을 가해 휴대폰(1)이 손상될 우려가 있다는 문제점이 다시 발생하게 된다.

The big problem does not have in. However mounting the cellular phone (1) to the apparatus according to the present invention through the configuration and used the feeling of fitness of the apparatus according to the present invention and cellular phone (1) falls down to the configuration if it looks at. Therefore the disadvantage that the cellular phone (1) is diverted among the game or the extreme case is broken away from and it can hinder the game control stable and comfortable still exists. Moreover, the problem that the problem has the concern in which first and second main body add the pressure to the cellular phone (1) if it unreasonably reduces the length of bridges (30,40) than the length of the cellular phone (1) so that the user complement disadvantage and the cellular phone (1) is damaged is again generated.

따라서 휴대폰(1)이 본 발명에 따른 장치에 더욱 안정적으로 안착되도록 하면서도 휴대폰(1)에 가해지는 압력을 줄일 수 있는 기술의 필요성이 대두된다.

Therefore, the necessity of the technology which can reduce the pressure applied to the cellular phone (1) even when the cellular phone (1) is more settled by the steadily in the apparatus according to the present invention emerges.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 227

이를 위해, 본 발명에 따른 휴대폰용 게임 패드 장치에는 완충패드(60) 혹은 커넥팅 어셈블리를 추가로 구성할 수 있고, 도 4, 5를 참고하여 후술하도록 한다.

For this, in the game pad apparatus for the cellular phone according to the present invention, the impact absorbing pad (60) or the connecting assembly the additionally can be configured and fig. 4, and 5 are referred to and it describes later.

도 4는 본 발명에 따른 완충패드(60)의 형상을 나타낸 사시도이다.

Figure 4 is a perspective view showing the shape of the impact absorbing pad (60) according to the present invention.

도 4를 보아 알 수 있듯이, 제 1 본체(10)의 휴대폰 접촉면에 완충패드(60)를 추가로 구비한다. 이 완충패드(60)는 제 1 본체(10)와 휴대폰(1)의 일면이 맞닿게 될 공간에 배치되며 제 1 본체(10)의 일면에 연결되고, 일정 두께를 가지되 제 1 본체(10)의 일면과 같은 모양으로 이루어지도록 구성하는 것이 바람직할 것이나 그 형상은 일정한 것에 국한되지 않는다.

Fig. 4 is looked at and it can know as if the impact absorbing pad (60) is additionally included in the cellular phone contact surface of the first main body (10). While this impact absorbing pad (60) is arranged in the space in which one side of the cellular phone (1) and the first main body (10) contacts with each other the space is connected to one side of the first main body (10) and it will do to configure in order to have the constant thickness and be formed in the shape like one side of the first main body (10) but , the shape is constant it is not limited.

이러한 완충패드(60)는 상기 제 1 본체(10)와 휴대폰(1)이 직접적으로 닿지 않도록 하여 휴대폰(1)의 하드웨어에 형성될 수 있는 흠집을 미연에 방지함과 동시에 제 1,2 본체(10,20)가 휴대폰(1)에 가할 압력을 완화시켜 주는 기능을 담당한다. 이 완충패드(60)는 상기 기능들을 적절히 수행하기 위해 너무 부드럽지는 않으면서도 적당한 탄성이 있는 실리콘이나 우레탄과 같은 재질을 사용하는 것이 바람직할 것이다.

The function of the first main body (10) and cellular phone (1) directly not contacting and such impact absorbing pad (60) beforehand preventing the scratch which can be formed in the hardware of the cellular phone (1) and relieving the pressure which first and second main bodies (10,20) add to the cellular phone (1) at the same time is taken charge of. So that this impact absorbing pad (60) appropriately perform functions, it will do to use the material such as the silicone in which it is elastic fit even when nots being so soft and urethane with desirable.

도 5는 본 발명에 따른 커넥팅 어셈블리의 개략적인 구성을 나타낸 블록도이다.

Figure 5 is a block diagram showing the summary configuration of the connecting assembly according to the present invention.

도 5를 보아 알 수 있듯이, 커넥팅 어셈블리는 제 1 본체(10)의 휴대폰(1) 접촉면에 구비된 에어튜브(110)와 이 에어튜브(110)의 표면에 장착되어 접촉 여부를 센싱하는 접촉센서(112) 및 외부의 공기를 제 1 본체(10) 내부로 유입시키는 팬(120), 유입된 공기를 이동시키는 공기유통관(130) 및 공기의 방향을 변화시키는 체크밸브(140), 또한 상기 구성요소들이 자동으로 상호 작용 할 수 있도록 하는 접촉 인식 신호 수신부(151)와 체크밸브 제어부(153) 및 팬 구동부(152)를 포함한 컨트롤러(150)로 구성된다.

Fig. 5 is looked at and it can know as if it is made up of the air tube (110) in which the connecting assembly is equipped in the cellular phone (1) contact surface of the first main body (10) and the controller (150) which is mounted on the surface of this air tube (110) and includes the contact sensor (112) sensing the contact whether or not and the fan (120) making flow in the external air to the first main body (10) inside, the air flowing tube (130) moving the air flowed in and the check valve (140) diversifying the direction of air, and the contact recognition signal receiving part (151). As to the contact recognition signal, moreover, elements automatically interact the check valve control unit (153) and fan driving part (152).

에어튜브(110)는 상기 제 1 본체(10)의 휴대폰 접촉면에 구비되어 제 1, 2 본체(10,20) 사이에 장착된 휴대폰(1)에 가해지는 물리적인 압력을 분산시켜 휴대폰(1)의 손상을 최소화할 뿐만 아니라 휴대폰(1)과의 밀착성을 강화시킴으로써 휴대폰(1)의 유격 및 이탈을 방지하기 위한 것으로, 다시 말해 에어튜브(110) 내에 주입된 에어가 휴대폰(1)의 일면을 전체적으로 부드럽게 감싸도록 하여 본 발명에 따른 휴대폰용 게임패드 장치에 의한 압력 및 외부 충격에 대한 완화 및 보호 기능을 제공하

in addition the air tube (110) is equipped in the cellular phone contact surface of the first main body (10) and the applied and physical pressure is dispersed into the cellular phone (1) mounted between first and second main bodies (10,20) and the damage of the cellular phone (1) is minimized strengthening the adhesion with the cellular phone (1) the mitigation about the pressure by the game pad apparatus for the cellular phone accordin

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 228

도록 한 것이다.

g to the invention on the whole, possible the air injecte d within the air tube (110) in other words easily surrou nd one side of the cellular phone (1) and external shoc k and protective are provided to for diverting and prev enting from separating of the cellular phone (1).

상기 에어튜브(110)는 공기 주입으로 팽창되었을 때 휴대폰(1)의 일면을 충분히 감쌀 수 있을 정도의 크기로 형성되는 것이 바람직할 것이다. 또한 이 에어튜브(110)는 주입 및 배출되는 공기로 인한 수축 이완을 위해 탄성이 높은 고무 등의 재질을 사용하는 것이 일반적이나, 휴대폰과 직접 맞닿는 표면의 재질은 안정적이고 부드러운 밀착을 위해 더욱 부드럽고 마찰력이 적은 재질을 사용하는 것이 바람직할 것이다.

It will do to be formed with the size of the extent which enough can surround one side of the cellular pho ne (1) when the air tube (110) was expanded to the a erial pressurizing. Moreover, this air tube (110) will do t o use the material including rubber etc. for the general, or the close adherence in which the material of the dire ct surface contacting with each other is stable and whi ch is soft with the cellular phone to use the material w hich is more soft and in which the frictional force is les s with desirable elasticity is high for the contraction rel axation due to injection and the ejected air.

이러한 에어튜브(110)의 표면에는 휴대폰(1)과 맞닿는 면의 일정 부위에 접촉센서(112)가 포함되어 있는데, 상기 접촉센서(112)는 휴대폰이 접촉센서(112)와 닿았을 때 접촉 인식 신호를 생성하는 것으로, 이 접촉센서(112)에서 발생하는 접촉 인식 신호는 튜브의 내벽을 따라 이어진 얇은 직경의 전선을 통해 컨트롤러(150)에 전달된다.

In the surface of such air tube (110), the contact sensor (112) is included in the specified region of the si de contacting with each other with the cellular phone (1). The contact sensor (112) produces the contact a cknowledge signal when the cellular phone got in touch with the contact sensor (112). It is delivered to the co ntroller (150) through the wire in which the contact ac knowledge signal generated in this contact sensor (11 2) is connected according to the inner wall of the tube of the thin diameter.

또한 상기 에어튜브(110)에는 개폐가 가능한 마개(113)도 추가로 구성할 수 있어 사용자가 본 발명에 따른 휴대폰용 게임패드 장치에서 휴대폰(1)을 탈착하려고 할 때에, 손으로 마개(113)를 열어 공기를 외부로 배출시킴으로써 간편하게 휴대폰(1)이 빠져 나갈 수 있는 공간을 제공하도록 한다.

Moreover, in the air tube (110), when the stopper (113) making the closing possible can configure the ad ditionally and the user tries to attach and tries to deta ch the cellular phone (1) from the game pad apparatus for the cellular phone according to the present inventio n by the stopper (113) being opened with hand and dis charging air to the outside the space in which the cellu lar phone (1) conveniently can come off is served.

상기 접촉센서(112)가 구비된 에어튜브(110)는 공기유입구(111)를 구비하는 바, 이 공기유입구(111)는 공기유통관(130)과 연결되어 있다. 더불어 상기 공기유통관(130)은 일정 속도로 회전하면서 공기유통관(130)으로 공기를 유입시키는 역할을 하는 팬(120)과 연결된다.

The f , and this air inlet (111) in which the air tube (110) in which the contact sensor (112) is equipped in cludes the air inlet (111) are connected to the air flowi ng tube (130). In addition, it links to the fan (120) whi ch serves to make flow in air to the air flowing tube (1 30) while the air flowing tube (130) rotates at a specifi c speed.

상기 공기유통관(130)은 공기가 이동할 수 있도록 내부에 통로가 형성된 파이프 형상이며, 상기 팬(120)과 연결되어 제 1 본체(10) 내부로 연장되되 어느 하나의 공기유통관(130)은 제 1 본체(10)의 내부로, 다른 하나의 공기유통관(130)은 에어튜브(110) 내측, 즉 공기유입구(111)로 각각 분기된다. 이러한 공기유통관(130)을 통하여 제 1 본체(10)의 내부로 유입되는 공기는 컨트롤러(150) 내지 기타 부품들이 전기적인 작용으로 과열되는 것을 방지하는 기능을 하며, 공기유입구(111)로 유입된 공기는 에어튜브(110)의 부피를 팽창시켜 상기 설명한 대로 휴대폰(1)의 유격 혹은 이탈을 방지하고 휴대폰(1)을 보호하는 역할을 한다.

The air flowing tube (130) is the pipe shape in which path is formed so that the public institution moves and it is connected to the fan (120) and it is extended to t he first main body (10) inside and one air flowing tube (130) *** of the first main body (10) , and the other a ir flowing tube (130) is branched to the air tube (110) i nner side, in other words, the air inlet (111) in the resp ectively. The air flowed in into the inside of the first m ain body (10) through such air flowing tube (130) funct ions to prevent the controller (150) to the other partse s from overheating to the electrical action and as the a ir flowed in into the air inlet (111) expands the volume of the air tube (110) and it illustrates the above it dive rts of the cellular phone (1) or it serves to prevent fro m separating and the cellular phone (1) serves to be pr otected.

상기 분기지점에는 체크밸브(140)가 추가로 구성되어 분기된

In the diverging point, each air flowing tube (130) in

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 229

각각의 공기유통관(130)을 선택적으로 개폐하는 역할을 한다. 다시 말해, 접촉센서(112)에서 접촉 인식 신호가 발생된 경우에 제 1 본체(10) 내부 측 공기유통관(130)으로의 흐름은 막고 튜브 측 공기유통관(130)으로의 흐름은 개방시키며, 또한 그 반대의 경우도 가능할 뿐만 아니라 기타 여러 가지 방향을 조절할 수 있다.

which the check valve (140) is additionally formed and which is branched serves to be selectively opened and serves to be closed. In other words, in the contact sen sor (112), in case the contact acknowledge signal is ge nerated the flow to the first main body (10) inside air fl owing tube (130) prevents and the flow to the tube sid e air flowing tube (130) opens and in addition it is possi ble in case of moreover, the opposite other various dire ctions can be controlled.

본 발명에 따른 커넥팅 어셈블리에는 상기 열거한 구성들이 자동적으로 상호작용 할 수 있도록 하는 컨트롤러(150)를 더 구비하는데, 상기 컨트롤러(150)는 접촉 인식 신호 수신부(151)와 팬 구동부(152) 및 체크밸브 제어부(153)로 구성된다.

In the connecting assembly according to the present invention, the controller (150) in which the above-men tioned configurations enumerated automatically interac ts is further. The controller (150) consists of the conta ct recognition signal receiving part (151), the fan drivin g part (152) and check valve control unit (153).

접촉 인식 신호 수신부(151)는 접촉센서(112)의 접촉 인식 신호를 수신하고, 팬 구동부(152)에 가동 지시를 한다.

The contact recognition signal receiving part (151) receives the contact acknowledge signal of the contac t sensor (112) and it instructs the driving to the fan dri ving part (152).

팬 구동부(152)는 공기유통관(130)으로 공기를 유입시키는 역할을 하는 팬(120)의 작동을 제어(on/off제어)한다.

The operation of the fan (120) in which the fan driving part (152) serves to make flow in air to the air flowing tube (130) is performed with the control (on / off contr ol).

체크밸브 제어부(153)는 상기 체크밸브(140)의 개폐를 제어하는 것으로, 상기 팬(120)이 작동됨과 동시에 에어튜브(110) 측 공기유통관(130)으로의 흐름은 개방시키고 타 측 공기유통관(130)은 폐쇄한다. 팬(120)이 작동된 시점부터 기 설정된 시간이 경과하면 위와는 반대로 제 1 본체(10) 내부 측 공기유통관(130)으로의 흐름만 개방시키게 된다.

The check valve control unit (153) controls opening and shutting of the check valve (140). The fan (120) is operated and the flow to the air tube (110) air flowing tube (130) opens at the same time the other side air fl owing tube (130) closes. The predetermined time open s the flow to the first main body (10) inside air flowing tube (130) from the point of time when the fan (120) is operated contrary to the progress lower-side the upper part.

이러한 커넥팅 어셈블리의 전체적인 작용을 더욱 상세히 설명하면, 휴대폰(1)이 장착되어 접촉센서(112)가 반응을 하면 이 신호가 접촉 인식 신호 수신부(151)에 전달되고, 접촉 인식 신호부(151)는 팬 구동부(152)를 가동시켜 팬의 가동에 의하여 공기유통관(130)으로 공기를 유입시킨다. 이와 동시에 체크밸브 제어부(153)에서는 상기 체크밸브(140)를 제어하여 유입된 공기가 에어튜브(110)의 내측으로만 들어갈 수 있도록 제 1 본체(10) 내부 측 공기유통관(130)을 폐쇄시키고, 에어튜브(110)에 적정 양의 공기를 유입하기 위하여 미리 세팅해 놓은 시간이 지나면 더 이상 공기가 에어튜브(110)에 유입되지 않고 제 1 본체(10) 내부로 들어가도록 에어튜브(110) 측 공기유통관(130)을 폐쇄시킨다.

If described in more detail, if the cellular phone (1) is mounted and the contact sensor (112) reacts the whol e action of such connecting assembly, two signal is deli vered to the contact recognition signal receiving part (151) and the contact recognition signal part (151) run s the fan driving part (152) and air is made flow in to t he air flowing tube (130) with the driving of the fan. Si multaneously, in the check valve control unit (153), th e first main body (10) inside air flowing tube (130) is cl osed so that the air controlling the check valve (140) a nd is flowed is necessary to the inner side of the air tu be (110) and if the time to set in advance is over in or der to flow in the air of the optimal amount in the air tu be (110), , the air tube (110) air flowing tube (130) is any more closed so that it is not flowed in and air is ne cessary to the air tube (110) to the first main body (1 0) inside.

상기 체크밸브 제어부(153)의 작용으로 인해 에어튜브(110)로 유입된 공기는, 설명한 바와 같이, 휴대폰(1)을 더 안정적으로 안착시킬 수 있도록 함과 동시에 휴대폰(1)에 가해질 수 있는 장치 내외부의 충격을 완화시키고, 제 1 본체(10) 내부로

The air flowed in into the air tube (110) due to the action of the check valve control unit (153) has the eff ect that as described above, the impact of in the appa ratus outside which can be applied in the cellular phone

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 230

유입된 공기는 제 1 본체(10) 내부의 온도를 낮추어 제 1 본체(10) 내에 밀집된 컨트롤러(150) 기타 여러 가지 부품들의 과열을 방지함으로써 내구성을 증강시키고 본 발명에 따른 휴대폰용 게임패드 장치의 수명을 연장시키는 효과가 있다.

(1) is relieved with more settling the cellular phone (1) in the steadily and the durability is made reinforced by the air flowed in into the first main body (10) inside lowering the temperature of the first main body (10) inside and preventing the overheat of controller (150) other various parts standing close together within the first main body (10) and the lifetime of the game pad apparatus for the cellular phone according to the present invention is lengthened.

사용자가 휴대폰(1)을 본 발명에 따른 휴대폰용 게임패드 장치에서 탈착하려고 할 때에는, 상기 마개(113)를 열어 에어튜브(110)내의 압력 차에 의해 쉽게 외부로 빠져 나가게 한 후 튜브의 수축으로 생성된 공간을 이용하여 어떠한 강제적인 힘이나 그로 인한 손상 없이 휴대폰(1)을 꺼낼 수 있다.

When the user tries to attach and tries to detach the cellular phone (1) from the game pad apparatus for the cellular phone according to the present invention after the stopper (113) is opened and it is easily gone to the outside by the pressure difference within the air tube (110) the cellular phone (1) can be taken out using the space generated to the contraction of the tube without the damage due to the compulsory power or that.

지금까지 설명한 바와 같이, 본 발명에 따른 휴대폰용 게임패드 장치의 구성 및 작용을 상기 설명 및 도면에 표현하였지만 이는 예를 들어 설명한 것에 불과하여 본 발명의 사상이 상기 설명 및 도면에 한정되지 않으며, 본 발명의 기술적 사상을 벗어나지 않는 범위 내에서 다양한 변화 및 변경이 가능함은 물론이다.

As illustrated in the above, the configuration and action of the game pad apparatus for the cellular phone according to the present invention were expressed in above explanation and drawing but the thought of the invention noing more than as to the this, is not restricted to above explanation and drawing for example to illustrate and it is of course to be possible in the range that does not do not depart from the technical mapping of the invention with the change and the change. Various.

도면에 대한 간단한 설명

도 1은 본 발명에 따른 휴대폰용 게임패드 장치에 대한 기본 구성을 나타낸 사시도.

도 2(a)는 본 발명에 따른 브릿지의 구성을 도시한 사시도.

도 2(b)는 본 발명에 따른 브릿지의 구성을 도시한 종단면도.

도 3은 본 발명에 따른 휴대폰용 게임패드 장치에 휴대폰을 장착한 형상을 나타낸 결합 사시도.

도 4는 본 발명에 따른 완충패드의 형상을 나타낸 사시도.

도 5는 본 발명에 따른 커넥팅 어셈블리의 개략적인 구성을 나타낸 블록도.

Brief explanation of the drawing

Figure 1 is a perspective view showing the basic configuration about the game pad apparatus for the cellular phone according to the present invention.

The perspective view in which Figure 2(a) shows the configuration of the bridge according to the present invention.

The cross-sectional view in which Figure 2(b) shows the configuration of the bridge according to the present invention.

Figure 3 is a combination perspective view showing the shape mounting the cellular phone to the game pad apparatus for the cellular phone according to the present invention.

Figure 4 is a perspective view showing the shape of the impact absorbing pad according to the present invention.

Figure 5 is a block diagram showing the summary configuration of the connecting assembly according to the present invention.

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 231

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Ex. 1009, IPR2023-00643, Pg. 232

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(71) Applicant: **PHONEJOY SOLUTIONS LIMITED** [CN/CN]; Flat/Rm 607, Yen Sheng Centre, 64 Hoi Yuen Street, Kwun Tong, New Territories, Hong Kong (CN).

(72) Inventors: **KESSLER, Martin**; 13A Tak Yue Mansion, 4 - 6 Dock Street, Hung Hom, Kowloon, Hong Kong (CN). **MOROZ, Alexander**; 14/F - D, Room E, Continental Mansion, 290 - 304 Kings Road, Fortress Hill, Hong Kong (CN). **SCHROEDER, Dale C.**; 567S, 24th Avenue, Brighton, Colorado 80601 (US).

(74) Agent: **SHENZHEN ZHONGYI PATENT AND TRADEMARK OFFICE**; 4th FL. West (PO Box No.5), Old Special Zone Newspaper Building, No. 1014 Shennan Rd., C., Futian, Shenzhen, Guangdong 518028 (CN).

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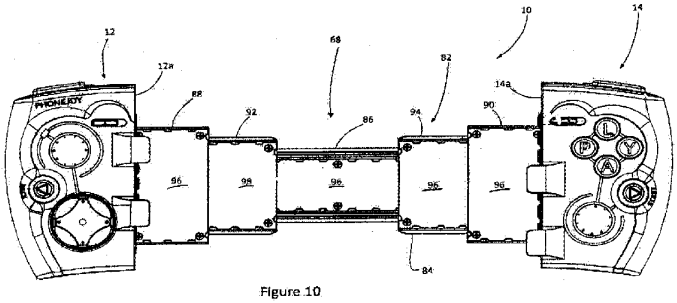


Figure 10

(57) Abstract: Provided is a game pad (10) comprising left and right handle housings (12, 14) adapted to be gripped by a user. The left and right handle housings (12, 14) are interconnected in such a manner as to enable them to be moved apart a sufficient amount to define therebetween a central space (68) for receiving and gripping a handheld information processing device (70) such as a smart phone or the like in a lengthwise orientation. The game pad (10) contains control circuitry (72, 74) and a communications module (80) whereby the game pad (10) can generate control signals and communicate these via a short range wireless protocol to the smart phone (70) in order to exert some control over a game or other application running on the smart phone (70). The arrangement of the left and right handle housings (12, 14) on either side of the centrally defined space (68) provides an ergonomically efficient and balanced apparatus for holding the smart phone (70) in a user friendly orientation and is such that a user can manipulate movement of the smart phone (70) as required where the application running on the smart phone is utilizing motion sensors or the like of the smart phone to create additional control inputs for the application being executed.

WO 2014/079264 A1

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 233

A HANDHELD APPARATUS FOR COMMUNICATING CONTROL SIGNALS TO AN INFORMATION PROCESSING DEVICE

Description

Technical Field

[1] The invention relates to a handheld apparatus for communicating control signals to an information processing device and, more particularly, but not exclusively, to a handheld controller apparatus such as a game pad for communicating control signals to a handheld information processing device such as a smart phone attached to the handheld controller apparatus.

Background Art

[2] Handheld information processing devices such as mobile phones, smart phones, personal digital assistants, e-readers and even tablet computers are increasingly being used for extended functions and applications including playing games of the type heretobefore adapted for playing on dedicated games consoles. Many of these handheld devices and, more particularly, smart phones running operating systems such as Android? or iOS (IPhone? operating system) are becoming as powerful from an information processing perspective as dedicated game consoles or even personal computers 'PCs'. As a result, consumers are increasingly using their smart phones to play sophisticated games rather than use dedicated games consoles. However, there are a number of limitations, both at the physical level and the processing control level, with using current smart phones to play the more advanced games.

[3] In response to these limitations, a number of game pads have been devised that enable a user to play a game on a handheld information processing device such as a smart phone using the game pad to generate some of the control inputs required for playing the game. One such game pad device apparatus comprises a housing containing control circuitry and a communications module. On an upper front edge of the housing is provided a bracket which enables a smart phone to be physically, but releasably attached to the upper front edge of the game pad apparatus. The game pad apparatus communicates with the smart phone through a short range wireless communication protocol such as Bluetooth?. The game pad apparatus executes software to thereby generate control inputs for a game playing on the smart phone and communicates these inputs to the smart phone via a short range wireless communication linked established between the game pad apparatus and the smart phone. By physically attaching the smart phone to the upper front edge of the game pad apparatus, this enables a user to not only view the smart phone's screen, but to physically manipulate

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 234

the orientation in space of the smart phone whereby motion sensor components or the like of the smart phone can be activated to provide additional control inputs for the game being played.

[4] There are, however, a number of problems associated with this type of game pad apparatus. In the first case, the physical attachment of the smart phone to the upper front edge of the game pad apparatus using a bracket depending outwardly from said upper front edge is not stable with the constant risk that the smart phone may become dislodged. Furthermore, although the bracket for attaching the smart phone to the game pad apparatus can be folded away when not in use, it creates an obstacle by the fact that it projects out from the exterior surface of the apparatus and it creates an eyesore in that it is still visible on the exterior of the apparatus even when folded away. Also, as the housing of the game pad apparatus is of a similar width to that of the smart phone, it does not provide an ergonomically efficient means by which a user can manipulate the combined game pad apparatus and attached smart phone in that it is generally unbalanced and unstable. In the event that the housing of the game pad were made wider to improve its handling, this would render it less portable and more bulky for storing.

Disclosure of Invention

Technical Problem

[5] An object of the invention is to mitigate or obviate to some degree one or more problems associated with known game pad apparatuses of the type adapted to physically mount and to interoperate with handheld information processing devices such as a smart phones or the like.

[6] The above object is met by the combination of features of the main claims; the sub-claims disclose further advantageous embodiments of the invention.

[7] Another object of the invention is to provide a handheld apparatus for communicating control signals to an information processing device which more stably mounts a handheld information processing device.

[8] Another object of the invention is to provide a handheld apparatus for communicating control signals to an information processing device which mounts a handheld information processing device in a more balanced and easily manipulatable manner.

[9] Yet another object of the invention is to provide a handheld controller apparatus for communicating control signals to an information processing device which hides the means for attaching the handheld information processing device to the handheld controller apparatus when such means is not in use.

[10] One skilled in the art will derive from the following description other objects of the invention. Therefore, the foregoing statements of object are not exhaustive and serve

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 235

merely to illustrate some of the many objects of the present invention.

Solution to Problem

Technical Solution

[11] In one aspect, the invention provides a game pad comprising left and right handle housings adapted to be gripped by a user. The left and right handle housings are interconnected in such a manner as to enable them to be moved apart a sufficient amount to define therebetween a central space for receiving and gripping a handheld information processing device such as a smart phone or the like in a lengthwise orientation. The game pad contains control circuitry and a communications module whereby the game pad can generate control signals and communicate these via a short range wireless protocol to the smart phone in order to exert some control on a game or other application running on the smart phone. The arrangement of the left and right handle housings on either side of the centrally defined space provides an ergonomically efficient and balanced apparatus for holding the smart phone in a user friendly orientation and is such that a user can manipulate movement of the smart phone as required where the application running on the smart phone is utilizing motion sensors or the like of the smart phone to create additional control inputs for the application being executed. Furthermore, the means interconnecting the hand housings is arranged such that, when it is not in use and the handle housings are situated in a closed condition, the interconnection means is generally not visible.

[12] In a first main aspect of the invention, there is provided a handheld apparatus for communicating control signals to an information processing device, comprising: a left handle housing and a right handle housing adapted to be gripped by a user's hands. The left handle housing and the right handle housing define therebetween a space for receiving a handheld information processing device. At least one of said left handle housing and said right handle housing comprises a memory storing machine readable instructions. At least one of said left handle housing and said right handle housing comprises a processor to execute said machine readable instructions in order to generate control signals for said handheld information processing device received in the defined space. At least one of said left handle housing and said right handle housing comprises a communication module for communicating control signals generated by the processor to said handheld information processing device received in the defined space.

[13] Preferably, the left handle housing and the right handle housing define therebetween a centrally arranged space between said handle housings for receiving a handheld information processing device.

[14] Accommodating a handheld information processing device in a space defined

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 236

between opposing end faces of the left and right handle housings of the controller apparatus of the invention provides a controller apparatus that is well balanced and stable and which allows a user to more easily and comfortably manipulate the orientation in space of the handheld information processing device. Also, the screen of the handheld information processing device occupies a more natural viewing position for the user relative to the location of controls provided on the handle housings.

[15] The arrangement is preferably such that the handheld information processing device is received in a lengthwise orientation within the defined space between the handle housings, i.e. the left handle housing and the right handle housing define therebetween a space of sufficient size to receive a handheld information processing device in a lengthwise orientation relative to the handle housings whereby an axis passing through a largest dimension of the handheld information processing device is parallel to an axis passing through the handle housings when the handheld information processing device is received in the space defined between the handle housings.

[16] By spacing apart the handle housings by an amount at least equal to a length of the handheld information processing provides an ergonomically more comfortable means for a user to manipulate the combined handheld apparatus and handheld information processing device.

[17] Preferably, the left handle housing and the right handle housing define therebetween a space whose size can be varied by movement of the housing handles relative to each other in order to receive handheld information processing devices of differing sizes.

[18] This provides the advantage that the controller or handheld apparatus of the present invention can be used with a range of different sized handheld information processing devices such as smart phones. For handheld information processing devices such as some tablet computers which are generally larger than smart phones or the like, it will be understood that the apparatus of the present invention can be scaled up to accommodate a range of sizes of such tablet computers.

[19] Preferably, as is known, the communication module is adapted to communicate control signals to an information processing device using a short range wireless communication protocol such as Bluetooth? or WiFi? as this negates the need to provide an electrical connection means on the apparatus of the invention tor electrically connect to a handheld information processing device.

[20] In a preferred embodiment, the left handle housing and the right handle housing may be physically interconnected by an extension mechanism. The extension mechanism may be adapted to enable said handle housings to be moved away from each other from a closed position to thereby define the space therebetween for receiving a handheld information processing device.

[21] Preferably, the extension mechanism is arranged such that it enables the handle

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 237

housings to be placed in very close proximity to one another to define a closed position of the handheld apparatus whereby it is not possible to receive a handheld information processing device in any space existing between said housing handles in said closed position. Preferably, in its closed condition, there is little or no space between opposing end faces of the handle housings, but that said handle housings abut to form a single unit controller apparatus.

[22] In its closed condition, the handheld apparatus of the invention can be used in a more conventional manner as a standalone game controller whereby it is connected by a suitable cable or by a short range wireless communication link to a remote information processing device to thereby communicate control signals to said remote device.

[23] At least one of the handle housings may be adapted to receive therewithin all or part of the extension mechanism when the handheld apparatus is in its closed position whereby the extension mechanism is generally hidden from view when the handheld apparatus is in said closed position.

[24] In a preferred embodiment, each of the handle housings is adapted to receive a respective part of said extension mechanism therewithin when the handheld apparatus is in its closed position to thereby hide the extension mechanism from view.

[25] Preferably, the extension mechanism comprises a telescoping slide mechanism thereby making it easier to accommodate said extension mechanism within the handle housings when the controller apparatus of the invention is in its closed condition.

[26] In a preferred embodiment, the left handle housing and the right handle housing each comprise respective control circuitry and said respective control circuitries are electrically connected by an electrical connection means. The electrical connection means may be arranged to pass through the extension mechanism.

[27] Using the extension mechanism as a form of conduit for the electrical connection means not only provides some protection for said electrical connection, but also saves space.

[28] In a preferred embodiment, the electrical connection means comprises a flexible circuit for enabling the respective control circuitries of the handle housing to communicate with each other. In one embodiment, the flexible circuit comprises a flexible, flat multi-wire electrical connector.

[29] The flexibility of the flexible circuit more easily accommodates the extension and retraction of the extension mechanism.

[30] In a preferred embodiment, the extension mechanism is biased so as to resist movement of the handle housings away from each other. Preferably, the biasing of the extension mechanism is of a sufficient strength as to provide a sufficient gripping force for holding a handheld information processing device between respective opposing end faces of the handle housings which define the space provided by the handheld

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 238

apparatus for receiving the handheld information processing device.

[31] Conveniently, the biasing of the extension mechanism for causing its retraction also provides the gripping force or a part of the gripping force for holding a handheld information processing device between opposing end faces of the handle housings.

[32] In a preferred embodiment, the extension mechanism comprises a store for the flexible circuit when the handheld apparatus is in its closed position. When the handle housings are moved apart, an appropriate amount of the stored flexible circuit is released under tension of a biasing system to accommodate the moving apart of the left and right handle housings.

[33] Advantageously, by storing the flexible circuit under tension, this allows the extension mechanism to be extended and retracted whilst preventing the flexible circuit becoming snagged within the extension mechanism and yet enables a sufficient amount of the flexible circuit to be released from its stored condition to accommodate an extension of the extension mechanism. Furthermore, the tension exerted on the flexible circuit can advantageously also be used as the sole or part of the biasing system for causing the handle housings to close together towards their closed condition when there is no handheld information processing device placed in the defined space.

[34] The store in the extension mechanism may comprise a guide system comprising a plurality of guides. These may define between them an overlapping path for accommodating the flexible circuit when the handheld apparatus is in its closed position. At least one of the guides may be slidable in a direction of extension of the extension mechanism to thereby release a stored amount of the flexible circuit as the handle housings are being moved apart. More preferably, the guide system includes two slidable guides which slide in opposing directions to each other to thereby release between them an appropriate amount of the stored flexible circuit when the handle housings are being moved apart. Preferably, also, the guide system defines a storage pathway for the flexible circuit which has a plurality of overlapping pathway sections. The guide system may comprise at least five overlapping pathway sections when the extension mechanism is in its closed state.

[35] Using a storage system comprising a plurality of overlapping pathway sections provides an efficient means by which an appropriate amount of the stored flexible circuit can be released from the store or withdrawn back into the store without snagging.

[36] In a preferred embodiment, the telescoping slide mechanism comprises at least a central slide section and respective primary sections within which the central section is accommodated when the slide mechanism is in its closed state. More preferably, the slide mechanism comprises the central section, respective secondary slide sections within which the central slide section is accommodated when the slide mechanism is in

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 239

a closed state, and the respective primary sections within which the secondary sections are respectively accommodated when the slide mechanism is in its closed state. Preferably, the primary slide sections are accommodated within respective ones of the handle housings when the handheld apparatus is in its closed position.

[37] Preferably, respective biasing means are provided between the handle housings and respective primary sections of the slide mechanism to thereby bias said primary sections to their closed state within the handle housings. Preferably also, the biasing mechanism for placing the flexible circuit under tension is the primary biasing mechanism for causing the sections of the sliding mechanism to close together. Preferably further, the biasing means provided between the handle housings and respective primary sections of the slide mechanism are the primary biasing means for causing the primary sections of the slide mechanism to withdraw within their respective handle housings.

[38] In a preferred embodiment, the biasing means provided between the handle housings and respective primary sections of the slide mechanism and the biasing mechanism for placing the flexible circuit under tension together act as a combined means of biasing the handle housings to their closed position.

[39] In accordance with a second main aspect of the invention, there is provided a combination of a handheld apparatus according to the first main aspect of the invention and a handheld information processing device received in a space defined between the handle housings of the handheld apparatus.

[40] In accordance with a third main aspect of the invention, there is provided a kit of parts for a handheld controller apparatus for communicating control signals to an information processing device, said kit of parts comprising: a left handle housing adapted to be gripped by a user; a right handle housing adapted to be gripped by a user; an interconnection device for at least physically interconnecting said left handle housing and said right handle housing in a spaced apart relationship to define therebetween a space for receiving a handheld information processing device; at least one of said left handle housing and said right handle housing comprising a communication module for communicating control signals to said handheld information processing device received in the defined space.

[41] The interconnection device may be adapted to also electrically connect respective control circuitry provided in said left and right handle housings.

[42] The interconnection device may be adapted to support a handheld information processing device thereupon within the defined space.

[43] In accordance with a fourth main aspect of the invention, there is provided a computer program product comprising a computer readable medium carrying machine readable instructions executable by a processor for controlling a handheld apparatus

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 240

according to the first main aspect of the invention to generate control signals for a handheld information processing device received in a space defined between the handle housings of the handheld apparatus.

[44] The summary of the invention does not necessarily disclose all the features essential for defining the invention; the invention may reside in a sub-combination of the disclosed features.

Brief Description of Drawings

Description of Drawings

[45] The foregoing and further features of the present invention will be apparent from the following description of preferred embodiments which are provided by way of example only in connection with the accompanying figures, of which:

[46] Figure 1 is a front perspective view of a handheld controller apparatus according to the invention in a closed state;

[47] Figure 2 is a front view of the handheld controller apparatus of figure 1;

[48] Figure 3 is a back view of the handheld controller apparatus of figure 1;

[49] Figure 4 is a left side view of the handheld controller apparatus of figure 1;

[50] Figure 5 is a right side view of the handheld controller apparatus of figure 1;

[51] Figure 6 is a top view of the handheld controller apparatus of figure 1;

[52] Figure 7 is a bottom view of the handheld controller apparatus of figure 1;

[53] Figure 8 is a front view of the handheld controller apparatus of figure 1 in a first partially opened state;

[54] Figure 9 is a front view of the handheld controller apparatus of figure 1 in a second partially opened state;

[55] Figure 10 is a front view of the handheld controller apparatus of figure 1 in a fully opened state;

[56] Figure 11 is a front view of the handheld controller apparatus of figure 1 in a fully opened state with a handheld information processing device received in a central space between left and right handle housings;

[57] Figure 12 is a bottom view of the controller apparatus and handheld information processing device combination of figure 11;

[58] Figure 13 is a front perspective view of the extension mechanism for the embodiment of figure 1;

[59] Figure 14 is a front view of the extension mechanism for the embodiment of figure 1;

[60] Figure 15 is a bottom view of the extension mechanism of figure 14;

[61] Figure 16 is a back view of the extension mechanism of figure 14;

[62] Figure 17 is a front perspective view of the extension mechanism for the embodiment of figure 1 with the top cover plates removed;

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 241

[63] Figure 18 is an enlarged front view of the extension mechanism of figure 17;

[64] Figure 19 is an enlarged partial schematic top view of the extension mechanism of figure 17; and

[65] Figure 20 is an enlarged partial schematic top view of the central section of the extension mechanism of figure 17.

Mode for the Invention

Mode for Invention

[66] The following description is of a preferred embodiment by way of example only and without limitation to the combination of features necessary for carrying the invention into effect.

[67] Referring to the drawings, a handheld controller apparatus 10 according to the invention is shown in figures 1 to 7 in what is referred to hereinafter as its closed position, closed condition or closed state whereby a left handle housing 12 is positioned in very close proximity to a right handle housing 14 to thereby form a unitary handheld controller apparatus 10 in this state. As can be seen in the drawings, respective opposing end walls 12a, 14a of the left and right handle housings 12, 14 are in near abutment, although in some embodiments the opposing end walls will be in actual abutment and may also interlock to form the unitary handheld controller apparatus 10 when in the closed condition.

[68] It will be understood that, whilst the handheld controller apparatus 10 is referred to as being in a closed condition with reference to figures 1 to 7, the controller apparatus 10 is operational as a controller apparatus for communicating control signals to a remote information processing device with which it is connected by a suitable wired or wireless communication link such as a Universal Serial Bus 'USB' cable for a wired communication link or a short range Bluetooth? or WiFi? wireless communication link.

[69] The left handle housing 12 and the right handle housing 14 are sized and shaped so as to be easily gripped by a user when operating the handheld controller apparatus 10. As can be seen in the drawings, an outer edge surface 12b, 14b of each of the left and right handle housings 12, 14 is curved in at least two dimensions to provide respective hand grips that generally conform to the palms of a user's hands. The outer edge surfaces 12b, 14b comprise palm grip surfaces. Each of the palm grip surfaces 12b, 14b may be provided with a pattern 15 of a plurality of small bumps and/or indentations to provide an enhanced grip surface to reduce or prevent slippage of a user's hands when gripping the controller apparatus 10.

[70] Furthermore, back surfaces 12c, 14c (figure 3) of each of said left and right handle housings 12, 14 may be recessed to provide respective finger grip surfaces 16, 18 to

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 242

enhance a user's grip of the controller apparatus 10 in use. The finger grip surfaces 16, 18 may each comprise an inwardly curved, inwardly facing, preferably sloped wall that is shaped so as to generally conform to an arc or curve defined by a user's fingertips when the user is gripping the controller apparatus 10.

[71] In the preferred embodiment as shown in the drawings, each of the left and right handle housings 12, 14 may be provided with a pair of interlocking tongue members 22, 24 which, when the controller apparatus 10 is in its closed state generally cover the junction between the opposing end faces 12a, 14a of the left and right handle housings 12, 14, but which may, as can be better seen in figure 12, act to retain a handheld information processing device in a space defined between the opposing end faces 12a, 14a of the left and right handle housings 12, 14 when the controller apparatus 10 is in an open state as will be explained in greater detail below.

[72] In the preferred embodiment as shown in the drawings, each of the left and right handle housings 12, 14 may also be provided with at least one gripping stud 26, 28 (figures 6 and 7) which abut each other when the controller apparatus 10 is in its closed state, but which may assist retention of a handheld information processing device in a space defined between the opposing end faces 12a, 14a of the left and right handle housings 12, 14 when the controller apparatus 10 is in an open state.

[73] In the preferred embodiment as shown in the drawings, each of the left and right handle housings 12, 14 is provided with a number of user input means. The user input means may comprise any one or a combination of a direction pad 'D pad', a joy stick, and one or more push buttons. However, it will be understood that in some embodiments user input means may be provided on only one of the handle housings.

[74] In the preferred embodiment shown in the drawings, the left handle housing 12 is provided with a D pad 30, a 'BACK' push button 32, an analog joy stick 34, a power on/off switch 36, a power on/off LED 38, first and second 'LEFT' push buttons 40, 42, a charging LED 44 and an analog on/off LED 46. The right handle housing 14 is provided with an analog joy stick 48, a 'START' push button 50, an analog on/off switch 52, four action pushbuttons 'P' 54, 'L' 56, 'A' 58 and 'Y' 60, first and second 'RIGHT' push buttons 62, 64 and a micro-USB charging port 66.

[75] In an open state of the controller apparatus 10 of the invention and as best seen in figures 10 to 12, the left handle housing 12 and the right handle housing 14 can be placed apart by a sufficient amount to define therebetween a central space 68 for receiving a handheld information processing device 70.

[76] Accommodating a handheld information processing device 70 in a space 68 defined between the opposing end faces 12a, 14a of the left and right handle housings 12, 14 of the controller apparatus 10 of the invention provides a controller apparatus 10 that is well balanced and stable and which allows a user to more easily and comfortably ma-

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 243

nipulate the orientation in space of the handheld information processing device 70. Also, a screen 72 of the handheld information processing device 70 occupies a more natural viewing position for the user relative to the location of the various user input means provided on the handle housings 12, 14.

[77] The arrangement is preferably such that the handheld information processing device 70 is received in a lengthwise or landscape orientation within the defined space 68 such that an axis X-X (figure 11) passing through a largest dimension of the handheld information processing device 70 is parallel to an axis, also X-X, passing through the handle housings 12, 14 when the controller apparatus 10 is in its open state. It will be appreciated, however, that the handheld information processing device 70 may be accommodated in the defined space 68 in a portrait or widewise orientation to facilitate running applications, playing of games or the like on the information processing device 70 which only execute in a portrait mode.

[78] By spacing apart the handle housings 12, 14 by an amount at least equal to a length of the handheld information processing device 70 provides an ergonomically more comfortable means for a user to manipulate the combined handheld controller apparatus 10 and handheld information processing device 70.

[79] Each of the handle housings 12, 14 is provided with respective control circuitry 72, 74 (figure 19), the circuitries 72, 74 being contained within their respective handle housings 12, 14 and preferably comprising suitable components mounted on a circuit board. Each of said circuitries 72, 74 comprises a memory 76 storing machine readable instructions, a processor 78 for executing said machine readable instructions in order to generate control signals for said handheld information processing device 70 received in the defined space 68, and a communication module 80 for communicating any control signals generated by the processor 78 to said handheld information processing device 70. It will be understood that in some embodiments only one of the left and right handle housings 12, 14 will be provided with control circuitry or that said control circuitry may be distributed between said two handle housings 12, 14. However, in the preferred embodiment of the invention, each of the handle housings 12, 14 is provided with respective control circuitry 72, 74 to respectively process user control and/or other inputs entered by a user at such handle housings 12, 14 in order to generate control signals to be communicated to the handheld information processing device 70 received in the defined space 68.

[80] The communication modules 80 are adapted to communicate control and/or other signals to the information processing device 70 using a short range wireless communication protocol such as Bluetooth? or WiFi? as this negates the need to provide an electrical or electronic connection means on the controller apparatus 10 of the invention tor electrically connecting said apparatus 10 to the information processing

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 244

device 70. Furthermore, it allows the apparatus 10 to be used with any information processing device that is adapted for short range wireless communication and has a compatible operating system to that of the controller apparatus 10.

[81] In the preferred embodiment as depicted in the drawings, the space 68 between the left handle housing 12 and the right handle housing 14 can be varied by movement of the handle housings 12, 14 relative to each other in order to receive handheld information processing devices 70 of differing sizes.

[82] This provides the advantage that the controller or handheld apparatus 10 of the invention can be used with a range of different sized handheld information processing devices such as smart phones. For handheld information processing devices such as some tablet computers which are generally larger than smart phones or the like, it will be understood that the apparatus 10 may be scaled up to accommodate a range of sizes of such tablet computers.

[83] In order to facilitate the variable spacing apart of the left and right handle housings 12, 14, the handle housings 12, 14 are physically interconnected by an extension mechanism 82. The extension mechanism 82 enables the handle housings 12, 14 to be placed in very close proximity to one another to define the closed position of the handheld controller apparatus 10 (figures 1 to 7) whereby it is not possible to receive a handheld information processing device 70 in any space existing between said housing handles 12, 14 in said closed position.

[84] Each of the handle housings 12, 14 is adapted to receive a respective part of said extension mechanism 82 therewithin when the handheld apparatus is in its closed position to thereby generally hide the extension mechanism from view.

[85] Referring to figures 8 through to 20 and more particularly to figures 13 to 18, it can be seen that the extension mechanism 82 comprises a telescoping slide mechanism 84. This arrangement of the extension mechanism 82 makes it possible to overcome the technical difficulty of providing an extension mechanism 82 that can extend by a distance sufficient to receive a smart phone 70 or the like in a lengthwise orientation whilst enabling the extension mechanism 82 to be accommodated and hidden from general view within the handle housings 12, 14 when the controller apparatus 10 is in its closed condition.

[86] The telescoping slide mechanism 84 comprises a central slide section 86 and respective primary slide sections 88, 90 within which the central section 86 is accommodated when the slide mechanism 84 is in its closed state. However, to better provide a means to move the left and right handle housings 12, 14 apart by a distance sufficient to receive a handheld information processing device 70 in a lengthwise orientation within the defined space 68, the slide mechanism 84 preferably includes in addition to the central slide section 86, respective secondary slide sections 92, 94

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 245

within which the central slide section 86 is accommodated when the slide mechanism 84 is in a closed state, and the respective primary sections 88, 90 within which the secondary sections 92, 94 are respectively accommodated when the slide mechanism 84 is in its closed state. The primary slide sections 88, 90 are arranged to be accommodated within respective ones of the handle housings 12, 14 when the handheld controller apparatus 10 is in its closed position.

[87] Figure 8 shows the controller apparatus 10 with the left and right handle housings 12, 14 in a partially opened state where the slide mechanism 84 is only partially extended. In contrast, Figure 9 shows the slide mechanism 84 in a half-opened state whilst figure 10 shows the slide mechanism 84 in a fully opened condition. It will be appreciated that, when the slide mechanism 84 is extended to its fully opened state (figure 10), this defines a maximum space between the opposing end faces 12a, 14a of the handle housings 12, 14 and thus a maximum length of a handheld information processing device 70 that can be received in the defined space 68. It will also be appreciated that the slide mechanism 84 can be extended to define a space 68 of smaller size than that of its fully opened state to receive a handheld information processing device 70 of a smaller than maximum length.

[88] The slide mechanism 84 can be best seen in figures 13 to 18 with figures 13 to 15 depicting the complete sliding mechanism 84 including cover plates 96, whereas figures 16 to 18 show the sliding mechanism 84 with its cover plates 96 removed.

[89] Each section of the slide mechanism 84 comprises a section of generally rectangular cross-section which greatly enhances the strength and rigidity of the mechanism 84. Each section comprises a slide member 98 of moulded plastics construction and a sheet metal cover plate 96. In the preferred embodiment, the sheet metal is sheet steel as this has high strength and is relatively inexpensive. For each section of the slide mechanism 84, the moulded plastics slide member 98 has at least one integrally moulded buttress member 100, but preferably a series of buttress members 100 on opposite side edges to form castellated side edges. Each of the steel sheet metal cover plates 96 has complementary recesses 102 in two of its opposing side edges such that, when a cover plate 96 is placed over its respective slide member 98, the recesses 102 in the castellated side edges of the cover plate 96 mate with the buttresses 100 in the castellated side edges of the slide member 98 to thereby form a precision fit. This arrangement of sheet steel cover plates 96 and moulded plastics material slide members 98 achieves a slide mechanism with a high tolerance fit which greatly enhances the durability of the slide mechanism and greatly enhances its slidability.

[90] As can be better seen in figures 17 and 18, the central slide member 98a has a pair of integrally moulded elongate tongue members 104 on its outward facing walls such that said tongue members 104 partially locate within respective complementary grooves

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 246

106 provided on inner walls of the secondary slide members 98b. The tongue and groove connection between the central slide member 98a and the two secondary slide members 98b allows the central slide member 98a to be wholly slidably accommodated within the two secondary slide members 98b. A similar tongue and groove connection is provided between the two secondary slide members 98b and their respective primary slide members 98c whereby tongue members 108 are provided on inner facing walls of the primary slide members 98c and complementary grooves 110 are provided in outer facing walls of the secondary slide members 98b. The tongue and groove connection between the two secondary slide members 98b and their respective primary slide members 98c allows each secondary slide member 98b to be wholly accommodated within its respective primary slide member 98c.

[91] In like manner, each of the primary slide members 98c forms a tongue and groove connection with its respective one of the handle housings 12, 14. As can be seen in figure 17, each of the primary slide members 98c has elongate groves 111 formed in its outermost facing walls which, in use, engage complementary tongue structures formed within the respective handle housings 12, 14 such that the slide mechanism can be substantially or wholly accommodated within the two handle housings 12, 14 as depicted in figures 1 to 7.

[92] The respective control circuitries 72, 74 of the handle housings 12, 14 are electrically connected by an electrical connection means 112. The electrical connection means 112 is preferably arranged to pass through the interior of the extension mechanism 82.

[93] Using the extension mechanism 82 as a form of conduit for the electrical connection means 112 not only provides some protection for said electrical connection means 112, but also saves space. In the preferred embodiment as shown in the drawings, the electrical connection means 112 comprises a flexible circuit 114 for enabling the respective control circuitries 72, 74 of the handle housings 12, 14 to communicate with each other and for power to be passed from a power supply provided in one of the handle housings to the circuitry provided in the other handle housing. The flexible circuit 114 may comprise a flexible circuit board, a flat multi-wire electrical connector or any suitable electrical power and signal connection means.

[94] As is best illustrated by figure 19, the flexible circuit 114 extends between the respective circuitries 72, 74 of the handle housings 12, 14 passing through an interior of the slide mechanism 84. The flexible circuit 114 is electrically and physically connected at a first end 114a to the circuitry 72 in the left handle housing 12, passes out of said housing 12 by passing around a first guide member 116 in the form of a roller 118 rotatably mounted on the primary slide member 98c of the slide mechanism 84 nearest said left handle housing 12, passes in a first direction through an interior space of a first one of the secondary slide members 98b to then pass into an interior

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 247

space of the central slide member 98a prior to passing around a second guide member 120 in the form of a roller 122 rotatably mounted on a pair of first sliding members 124 provided in said central slide member 98a, passes in an opposing second direction still within the interior space of the central slide member 98a to then pass around a third guide member 126 before extending again in the first direction to encounter a fourth guide member 128, passing around the fourth guide member 128 to extend again in the second direction and then pass around a fifth guide member 130 in the form of a roller 132 rotatably mounted on a pair of second sliding members 134 to then extend in the first direction, then passing out of the interior space of the central slide member 98a through an interior space of the other secondary slide member 98b and into an interior space of the other primary slide member 98a prior to passing around a sixth guide member 136 in the form of a roller 138 rotatably mounted to said other primary slide member 98a and then connecting electrically and physically at its second end 114b to the circuitry 74 provided in the right handle housing 14.

[95] The first and second pairs of sliding members124, 134 are mounted within the central slide member 98a such that they each can move in a direction of extension of the sliding mechanism 84, but in opposing directions to each other as is best seen in figure 20 and denoted by arrowed lines Y and Z. Each pair of sliding members 124, 134 is supported in a pair of respective slots 140, 142 provided within the central slide member 98a of the sliding mechanism. Each pair of sliding members 124, 134 is biased to a stored state by a respective biasing means 144, 146 which, in the preferred embodiment, take the form of elastic silicon or rubber bands 148, 150, although any suitable biasing means could be employed. Consequently, as the handle housings 12, 14 are moved apart, tension is exerted on the flexible circuit 114 causing said first and second pairs of sliding members 124, 134 to move away from their stored positions to thereby release a controlled or appropriate amount of flexible circuit 114 to accommodate the amount of separation of the handle housings 12, 14. The handheld controller apparatus 10 of the invention thereby provides a store for the flexible circuit 114 when the handheld apparatus 10 is in its closed position, this store comprising an overlapping pathway traced by the flexible circuit 114 around the plurality of guide members of the sliding mechanism 84 between the respective circuitries 72, 74 of the left and right handle housings 12, 14. When the handle housings 12, 14 are moved apart, an appropriate amount of the stored flexible circuit 114 is released under tension of the biasing system comprising the biasing means 144, 146 provided to accommodate the moving apart of the left and right handle housings 12, 14.

[96] Advantageously, by storing the flexible circuit 114 under tension, this allows the sliding mechanism 84 to be manually extended and automatically retracted whilst preventing the flexible circuit 114 becoming snagged within the sliding mechanism 84

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 248

and yet enables a sufficient amount of the flexible circuit 114 to be released from its stored condition to accommodate an extension of the sliding mechanism 84. Furthermore, the tension exerted on the flexible circuit 114 can advantageously also be used as the sole biasing force or part of the biasing force for causing the handle housings 12, 14 to automatically close together towards their closed condition when there is no handheld information processing device 70 placed in the defined space 68.

[97] As has been described, the store in the sliding mechanism 84 comprises a guide system comprising first to sixth guide members, although any suitable number of guide members could be used. Furthermore, all of the guide mebers could comprise rotatably mounted rollers, although in the preferred embodiment as shown in the drawings, some of the guide members are static guides having smooth surfaces to ensure sliding of the flexible circuit 114 thereover when the flexible circuit 114 is being withdrawn from its stored condition or automatically returned to its stored state. The guide members define between them an overlapping pathway for accommodating the flexible circuit 114 when the handheld apparatus is in its closed position. The storage pathway so defined has a plurality of overlapping pathway sections and, in the preferred embodiment, has five overlapping pathway sections when the extension mechanism is in its closed state.

[98] Using a storage system comprising a plurality of overlapping pathway sections provides an efficient means by which an appropriate amount of the stored flexible circuit 114 can be released from the store or withdrawn back into the store without snagging.

[99] In addition to the biasing system provided in the sliding mechanism 84 for tensioning the flexible circuit 114, there are provided respective pairs of biasing means 160 (figure 12) in the form of coil springs 162 attached between the handle housings 12, 14 and respective ones of the primary sections 88, 90 of the slide mechanism 84 to thereby bias said primary sections 88, 90 to their closed state within the handle housings 12, 14. As can be seen in figure 12, springs162 are provided on each side of the handle housings 12, 14. Each spring 162 is arranged such that is attached between a respective handle housing and a respective one of the primary sections of the sliding mechanism. As such, the springs' primary function is to bias the primary sections of the sliding mechanism to their closed positions within their respective handle housings.

[100] The biasing mechanism or system 144, 146 for placing the flexible circuit 114 under tension is preferably the primary biasing mechanism for causing the sections of the sliding mechanism to automatically close together. The biasing means 160 provided between the handle housings and respective primary sections of the slide mechanism are the primary biasing means for causing the primary sections of the slide mechanism to automatically withdraw within their respective handle housings. Consequently, the

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 249

biasing means 160 provided between the handle housings and respective primary sections of the slide mechanism and the biasing mechanism or system 144, 146 for placing the flexible circuit under tension together act as a combined means of automatically biasing the handle housings to their closed position.

[101] In a preferred embodiment, the extension mechanism 82 is biased so as to resist movement of the handle housings 12, 14 away from each other and is of a sufficient strength so as to provide a sufficient gripping force for holding a handheld information processing device 70 between respective opposing end faces 12a, 14a of the handle housings 12, 14.

[102] In general, the present invention provides a game pad apparatus 10 comprising left and right handle housings 12, 14 adapted to be gripped by a user. The left and right handle housings 12, 14 are interconnected in such a manner as to enable them to be moved apart a sufficient amount to define therebetween a central space 68 for receiving and gripping a handheld information processing device 70 such as a smart phone or the like in a lengthwise orientation. The game pad apparatus 10 contains control circuitry and a communications module whereby the game pad apparatus 10 can generate control signals and communicate these via a short range wireless protocol to the smart phone 70 in order to exert some control on a game or other application running on the smart phone 70. The arrangement of the left and right handle housings 12, 14 on either side of the centrally defined space 68 provides an ergonomically efficient and balanced apparatus for holding the smart phone 70 in a user friendly orientation and is such that a user can manipulate movement of the smart phone 70 as required where the application running on the smart phone 70 is utilizing motion sensors or the like of the smart phone 70 to create additional control inputs for the application being executed.

[103] In another aspect, the invention provides a combined controller apparatus comprising the handheld controller apparatus 10 according to the present invention and a handheld information processing device 70 received in the space 68 defined between the handle housings 12, 14.

[104] In another aspect, the invention provides a kit of parts for a handheld controller apparatus 10 of the invention. The kit of parts comprises the left handle housing 12, the right handle housing 14, an interconnection device for at least physically interconnecting the left handle housing 12 and the right handle housing 14 in a spaced apart relationship to define therebetween the space 68 for receiving a handheld information processing device 70, wherein at least one of said left handle housing 12 and said right handle housing 14 comprises a communication module for communicating control signals to said handheld information processing device 70 received in the defined space 68.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 250

[105] The interconnection device may be adapted to also electrically connect respective control circuitry provided in said left and right handle housings.

[106] The interconnection device may be adapted to support a handheld information processing device thereupon within the defined space.

[107] In another aspect, the invention provides a computer program product comprising a computer readable medium carrying machine readable instructions executable by a processor for controlling the handheld controller apparatus 10 of the invention to generate control signals for a handheld information processing device 70 received in the space 68 defined between the handle housings 12, 14 of the handheld controller apparatus 10.

[108] While the invention has been illustrated and described in detail in the drawings and foregoing description, the same is to be considered as illustrative and not restrictive in character, it being understood that only exemplary embodiments have been shown and described and do not limit the scope of the invention in any manner. It can be appreciated that any of the features described herein may be used with any embodiment. The illustrative embodiments are not exclusive of each other or of other embodiments not recited herein. Accordingly, the invention also provides embodiments that comprise combinations of one or more of the illustrative embodiments described above. Modifications and variations of the invention as herein set forth can be made without departing from the spirit and scope thereof, and, therefore, only such limitations should be imposed as are indicated by the appended claims.

[109] In the claims which follow and in the preceding description of the invention, except where the context requires otherwise due to express language or necessary implication, the word "comprise" or variations such as "comprises" or "comprising" is used in an inclusive sense, i.e. to specify the presence of the stated features but not to preclude the presence or addition of further features in various embodiments of the invention.

[110] It is to be understood that, if any prior art publication is referred to herein, such reference does not constitute an admission that the publication forms a part of the common general knowledge in the art.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 251

Claims

[Claim 1] A handheld apparatus for communicating control signals to an information processing device, comprising:
a left handle housing and a right handle housing adapted to be gripped by a user's hands, said left handle housing and said right handle housing defining therebetween a space for receiving a handheld information processing device;
at least one of said left handle housing and said right handle housing comprising a memory storing machine readable instructions;
at least one of said left handle housing and said right handle housing comprising a processor to execute said machine readable instructions in order to generate control signals for said handheld information processing device received in the defined space; and
at least one of said left handle housing and said right handle housing comprising a communication module for communicating control signals generated by the processor to said handheld information processing device received in the defined space,
wherein the left handle housing and the right handle housing each comprise respective control circuitry and said respective control circuitries are electrically connected by a flexible circuit; and
wherein the handheld apparatus comprises a store for the flexible circuit when the handheld apparatus is in a closed position, the arrangement being such that, when the handle housings are moved apart, an amount of the stored flexible circuit is released under tension of a biasing system.

[Claim 2] The handheld apparatus of claim 1, wherein the left handle housing and the right handle housing define therebetween a space whose size can be varied by movement of the housing handles relative to each other in order to receive handheld information processing devices of differing sizes.

[Claim 3] The handheld apparatus of claim 1, wherein the handheld apparatus comprises a game pad apparatus for controlling a game application running on an information processing device of a type having a touch screen as one of its primary means for receiving user input to said handheld information processing device.

[Claim 4] The handheld apparatus of claim 1, wherein the communication module is adapted to communicate control signals to an information processing

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 252

device using a short range wireless communication protocol.

[Claim 5] The handheld apparatus of claim 1, wherein the left handle housing and the right handle housing are physically interconnected by an extension mechanism which is adapted to enable said handle housings to be moved away from each other from said closed position to thereby define the space therebetween for receiving a handheld information processing device.

[Claim 6] The handheld apparatus of claim 5, wherein each of the handle housings is adapted to receive a respective part of said extension mechanism therewithin when the handheld apparatus is in said closed position to thereby hide the extension mechanism from view.

[Claim 7] The handheld apparatus of claim 5, wherein the flexible circuit passes through the extension mechanism.

[Claim 8] The handheld apparatus of claim 7, wherein the flexible circuit enables the respective control circuitries of the handle housings to communicate with each other.

[Claim 9] The handheld apparatus of claim 5, wherein the extension mechanism is biased so as to resist movement of the handle housings away from each other and wherein the biasing is of a sufficient strength as to provide a sufficient gripping force for holding a handheld information processing device between respective opposing end faces of the handle housings which define the space for receiving the handheld information processing device.

[Claim 10] The handheld apparatus of claim 8, wherein the extension mechanism comprises the store for the flexible circuit when the handheld apparatus is in its closed position.

[Claim 11] The handheld apparatus of claim 10, wherein the store in the extension mechanism comprises a guide system comprising a plurality of guides which between them define an overlapping path for accommodating the flexible circuit when the handheld apparatus is in its closed position and wherein at least one of the guides is slidable in a direction of extension of the extension mechanism to thereby release a stored amount of the flexible circuit as the handle housings are being moved apart.

[Claim 12] The handheld apparatus of claim 10, wherein the extension mechanism comprises a telescoping slide mechanism which comprises a central slide section, respective secondary slide sections within which the central slide section is accommodated when the slide mechanism is in a

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 253

closed state, and respective primary sections within which the secondary sections are respectively accommodated when the slide mechanism is in its closed state.

[Claim 13] The handheld apparatus of claim 12, wherein respective biasing means are provided between the handle housings and respective primary sections of the slide mechanism and wherein the biasing means provided between the handle housings and respective primary sections of the slide mechanism and the biasing mechanism for placing the flexible circuit under tension together act as a combined means of biasing the handle housings to their closed position.

[Claim 14] A combination of a handheld apparatus of any one of the preceding claims and a handheld information processing device received in a space defined between the handle housings of the handheld apparatus.

[Claim 15] A kit of parts for a handheld controller apparatus for communicating control signals to an information processing device, said kit of parts comprising:
a left handle housing adapted to be gripped by a user;
a right handle housing adapted to be gripped by a user;
an interconnection device for at least physically interconnecting said left handle housing and said right handle housing in a spaced apart relationship to define therebetween a space for receiving a handheld information processing device;
at least one of said left handle housing and said right handle housing comprising a communication module for communicating control signals to said handheld information processing device received in the defined space,
wherein the left handle housing and the right handle housing each comprise respective control circuitry and said respective control circuitries are electrically connected by a flexible circuit; and
wherein the handheld apparatus comprises a store for the flexible circuit when the handheld apparatus is in a closed position, the arrangement being such that, when the handle housings are moved apart, an amount of the stored flexible circuit is released under tension of a biasing system.

[Claim 16] A computer program product comprising a computer readable medium carrying machine readable instructions executable by a processor for controlling a handheld apparatus of any one of claims 1 to 13 to generate control signals for a handheld information processing device

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 254

received in a space defined between the handle housings of the handheld apparatus.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 255

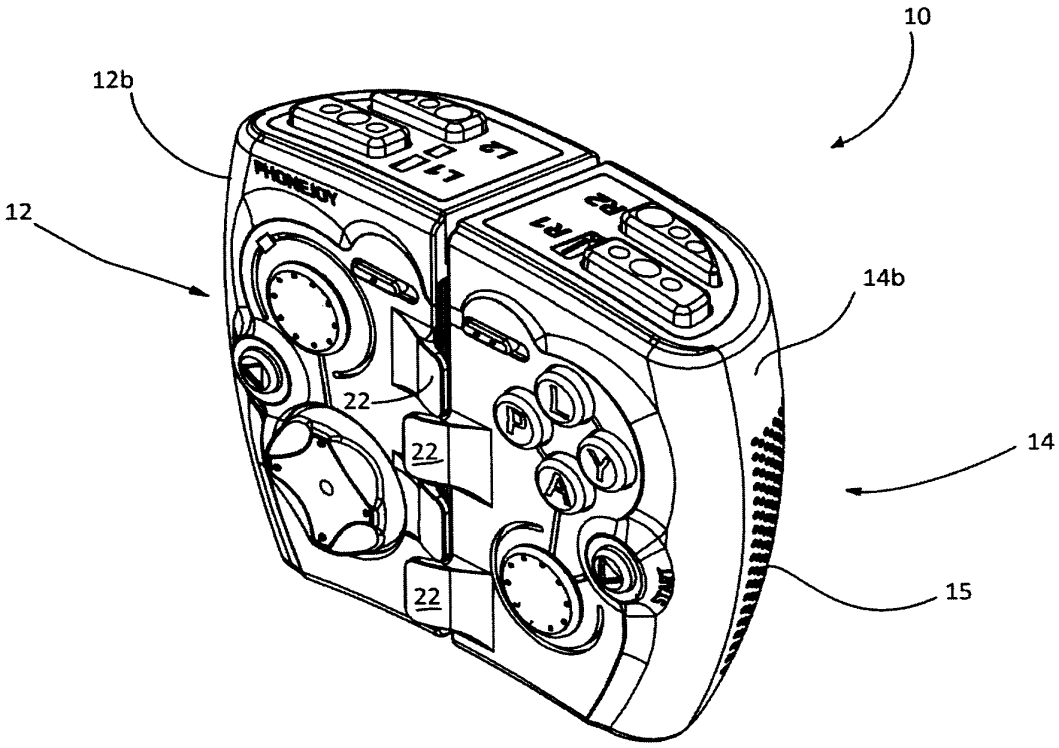


Figure 1

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 256

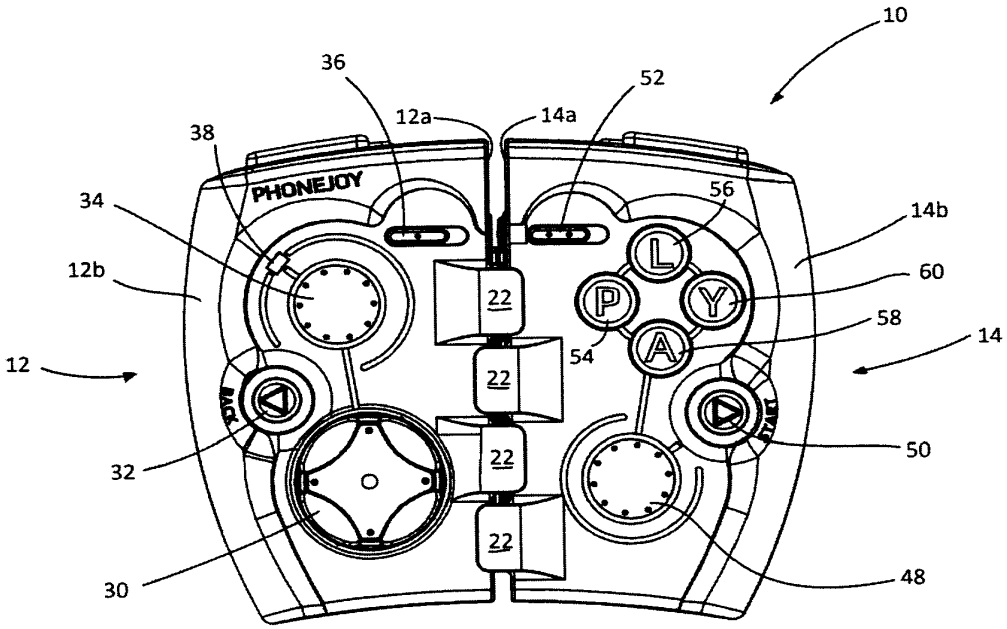


Figure 2

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 257

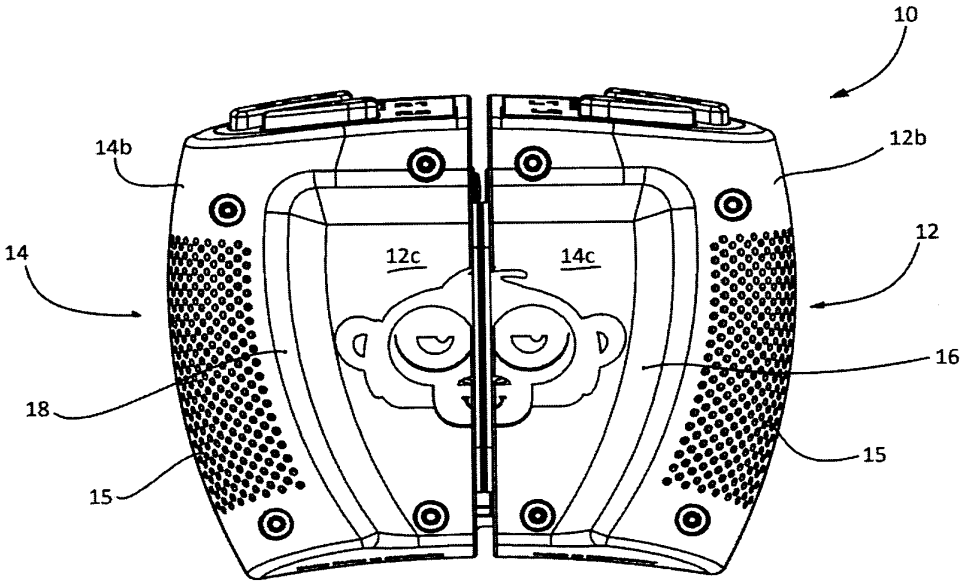


Figure 3

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 258

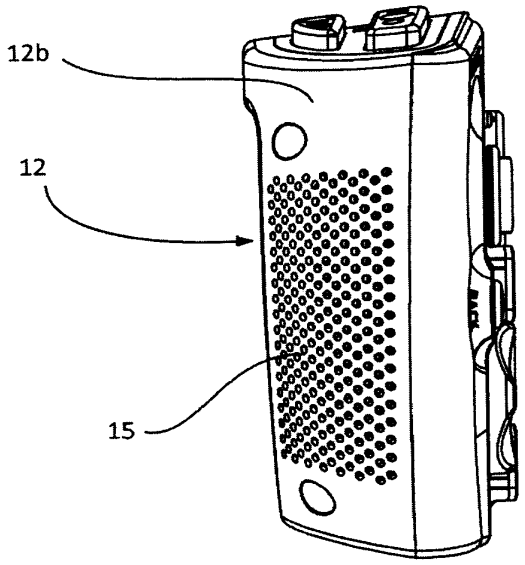


Figure 4

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 259

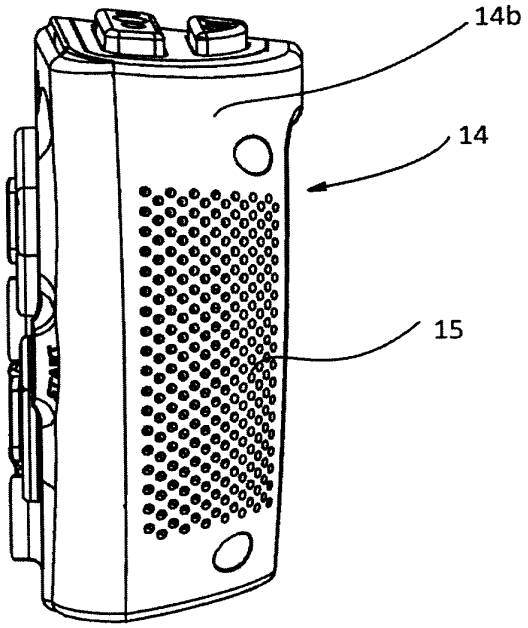


Figure 5

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 260

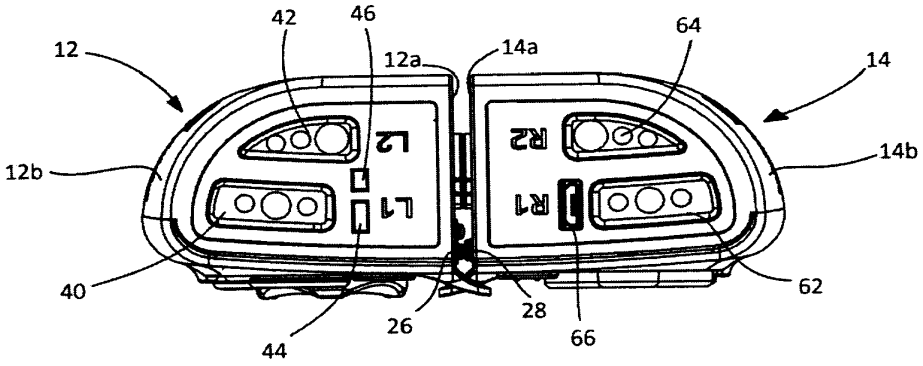


Figure 6

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 261

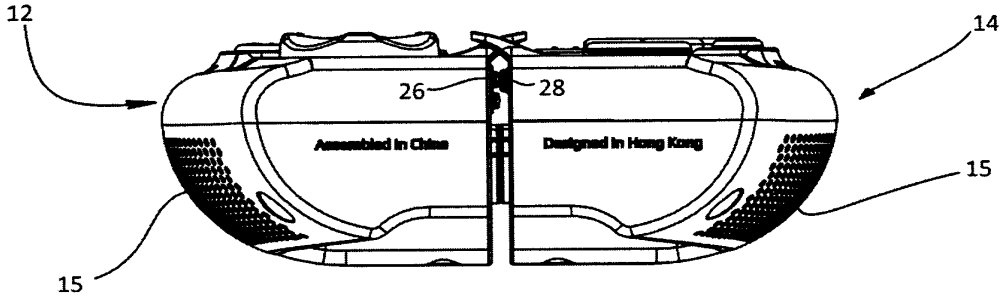


Figure 7

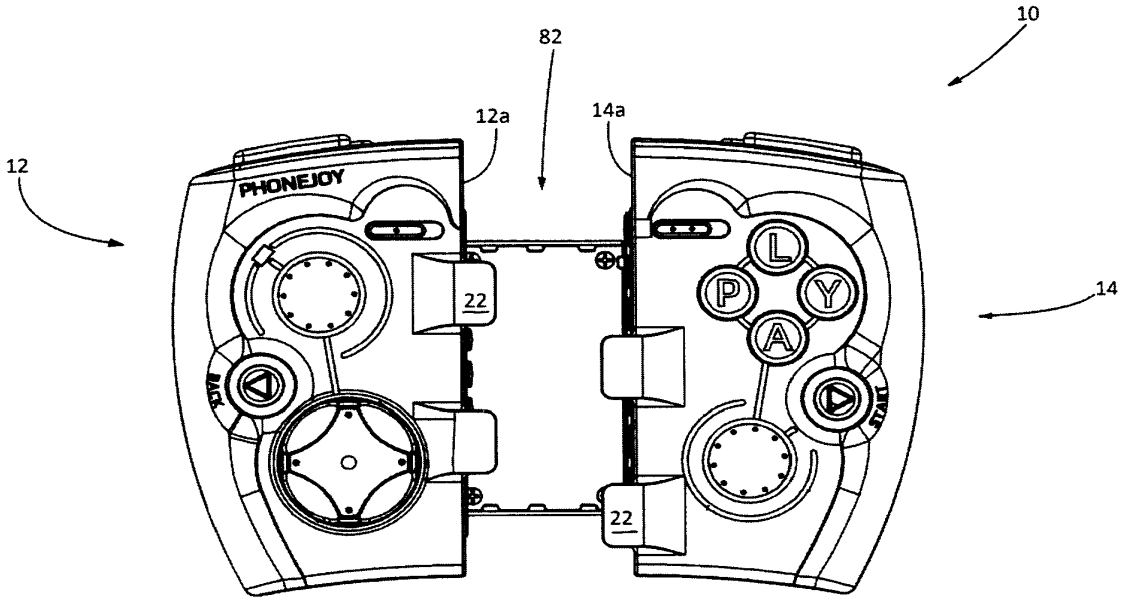


Figure 8

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 262

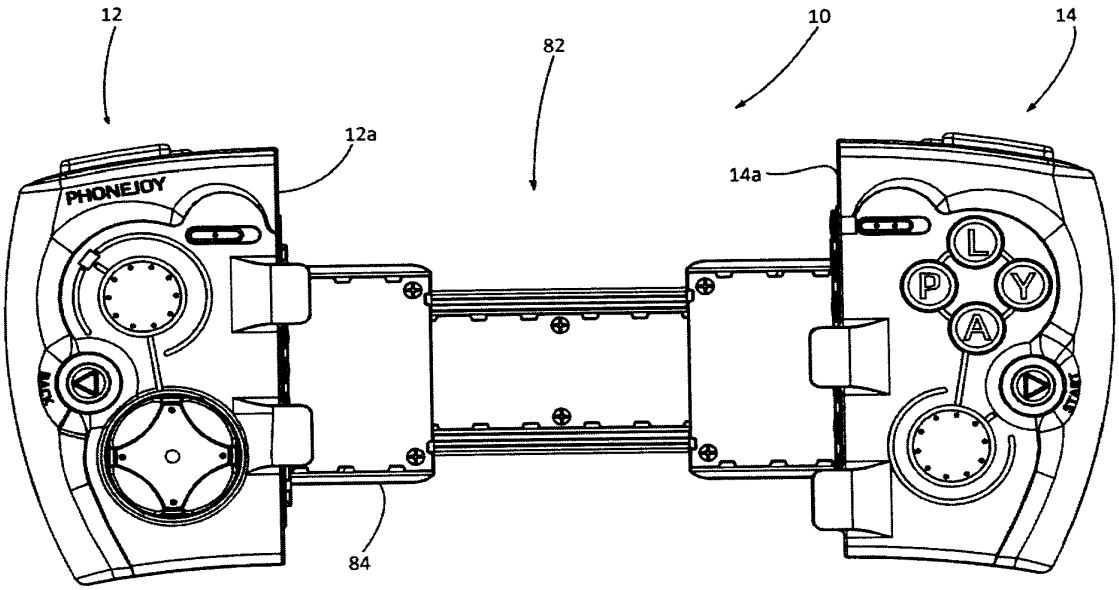


Figure 9

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Ex. 1009, IPR2023-00643, Pg. 263

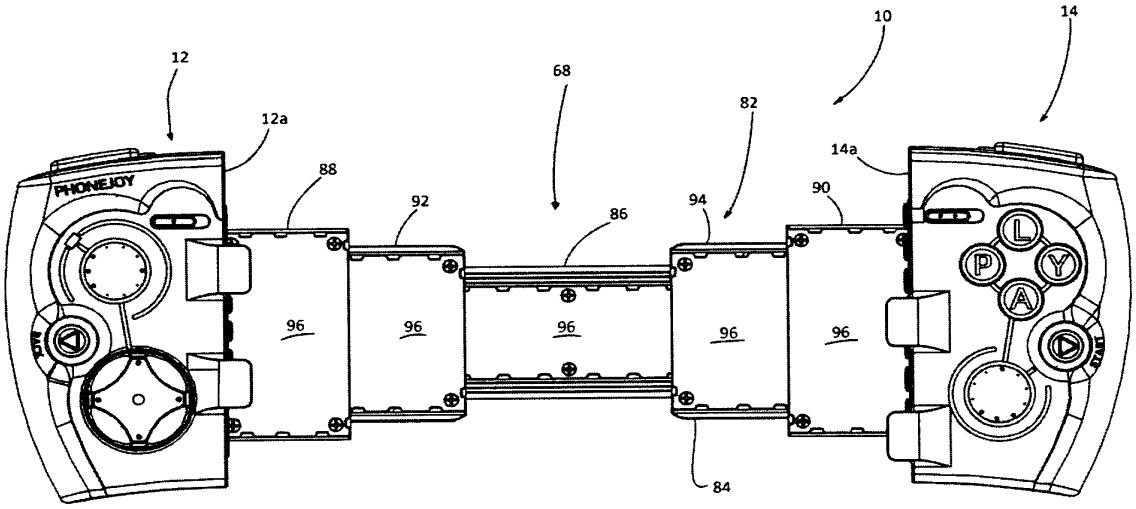


Figure 10

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 264

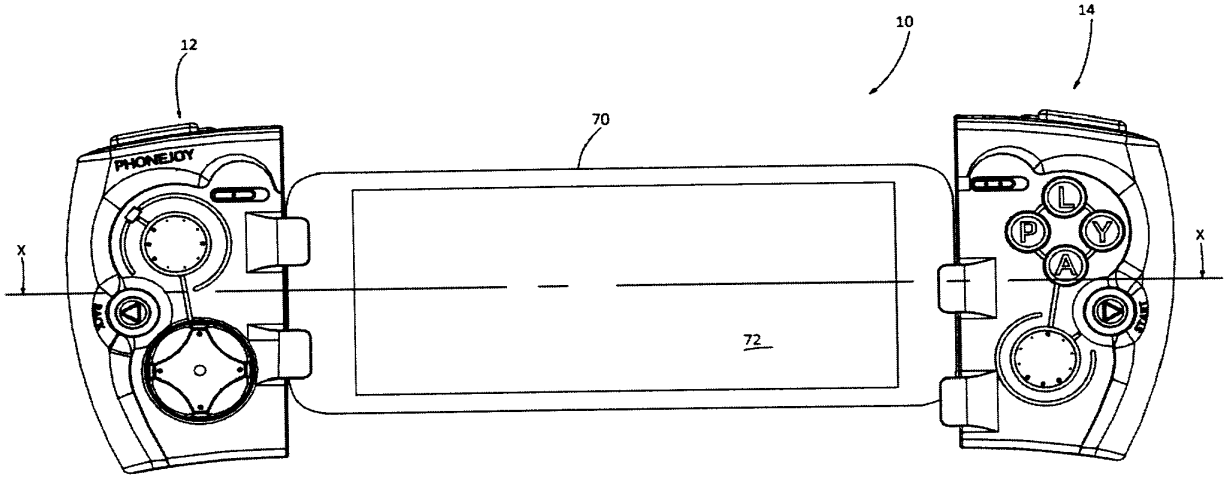


Figure 11

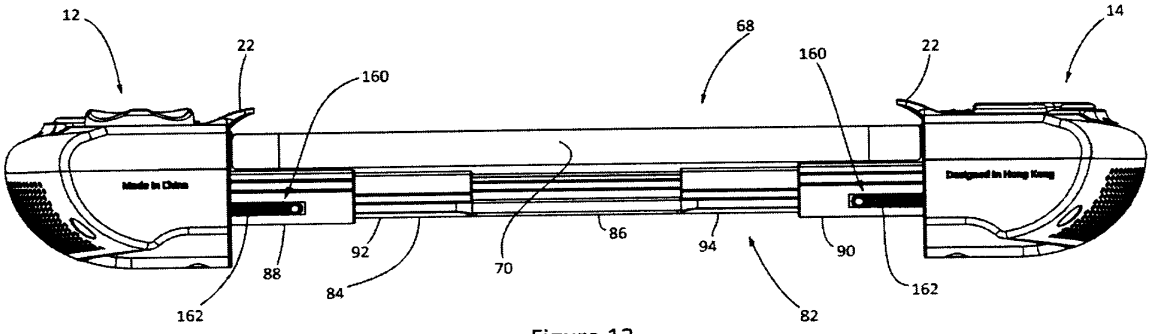


Figure 12

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 265

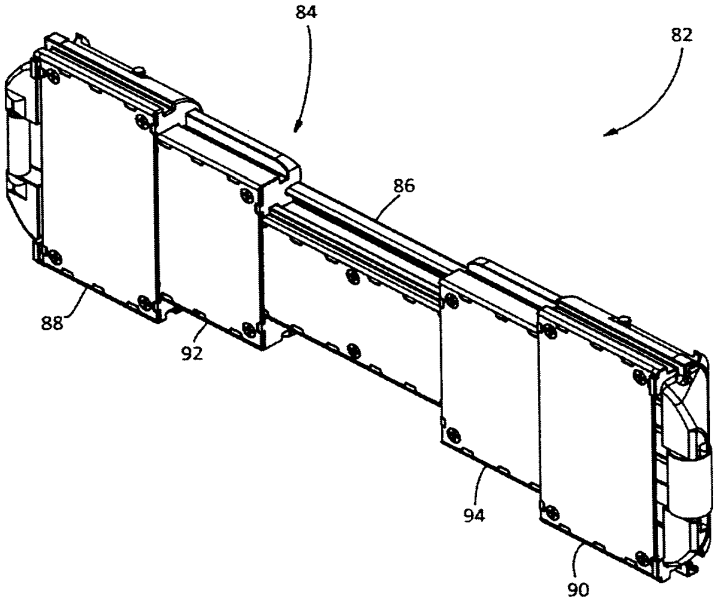


Figure 13

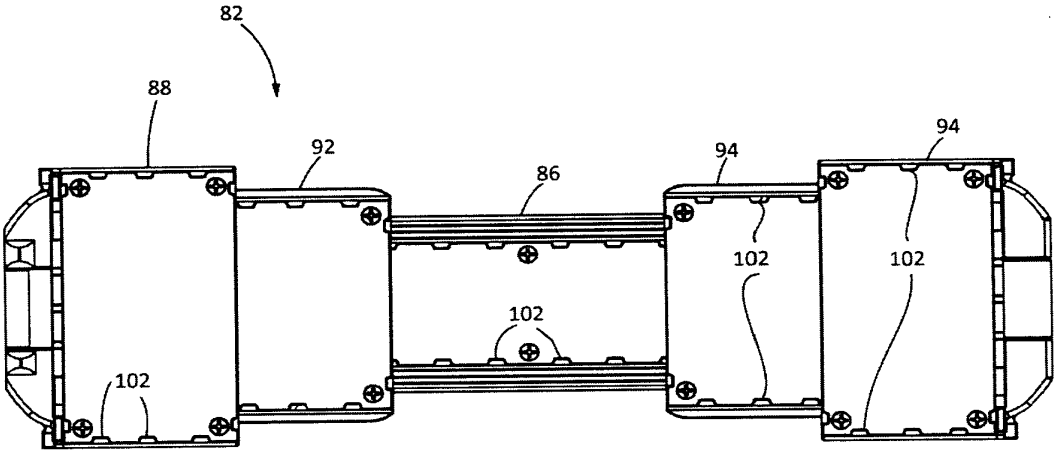


Figure 14

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 266

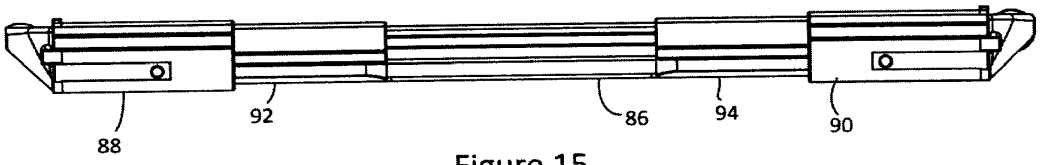


Figure 15

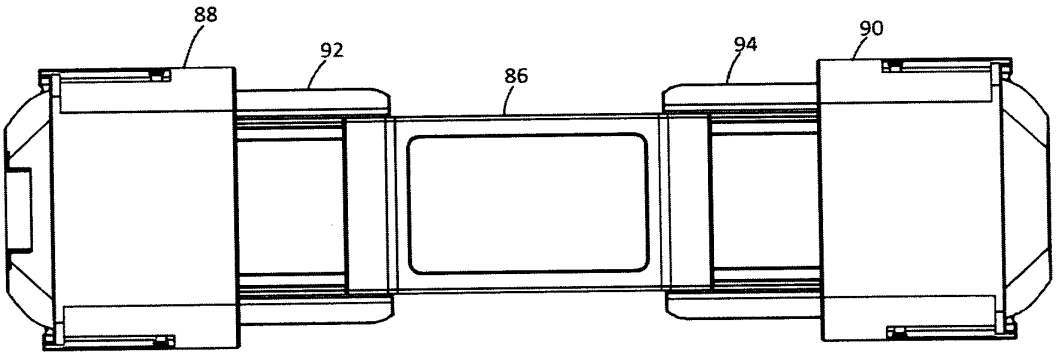


Figure 16

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 267

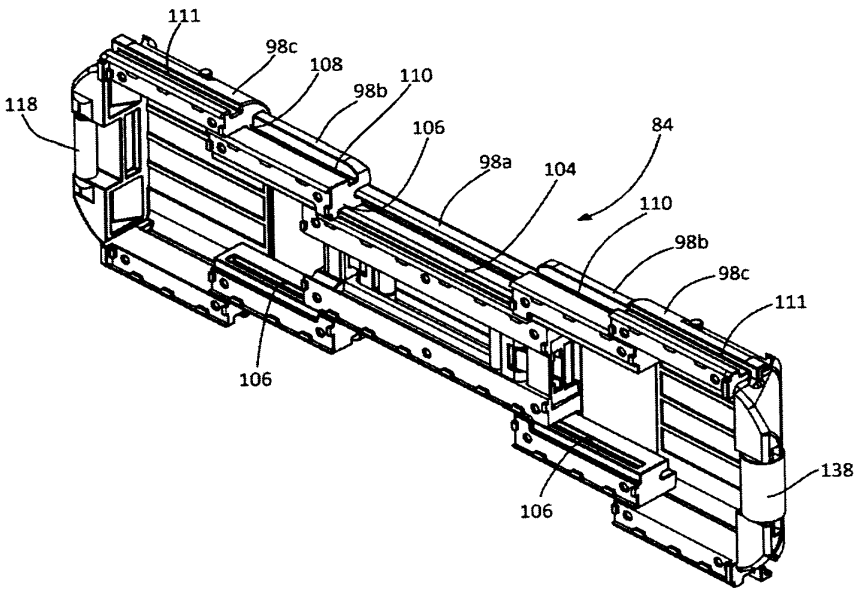


Figure 17

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 268

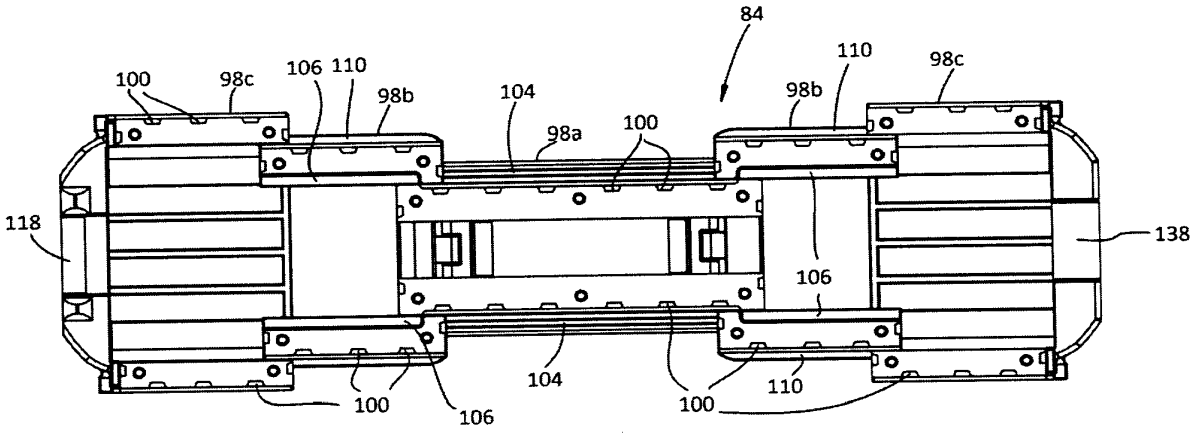


Figure 18

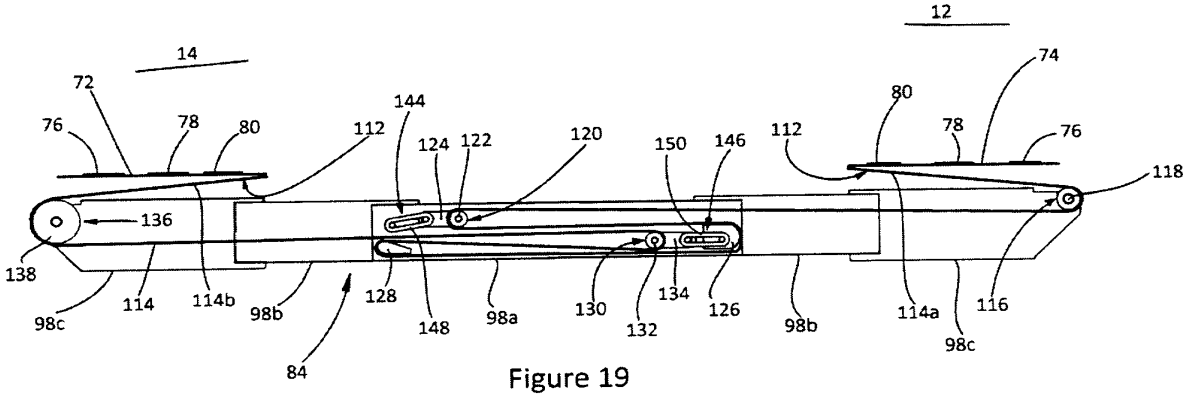


Figure 19

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 269

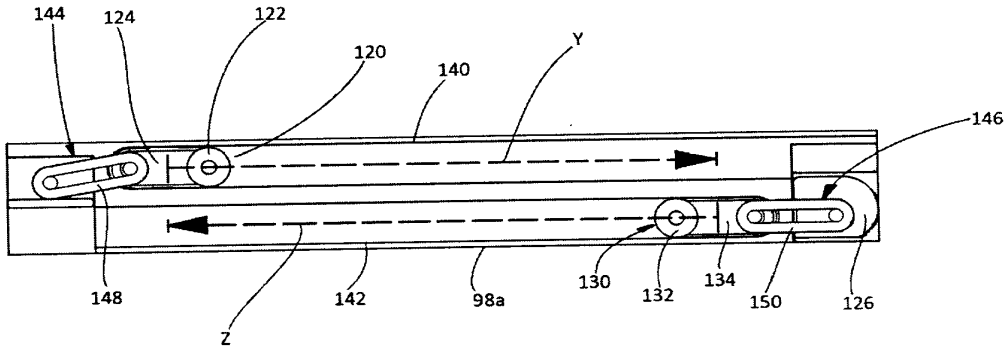


Figure 20

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 270

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2013/083439

A. CLASSIFICATION OF SUBJECT MATTER

G06F 9/06 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: G06F, A63F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT, EPODOC, WPI, CNKI: handheld, handle, housing, communicat+, transmit+, processor, apart, circuit+, signal?, space, hollow, flexible, tension

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/103869 A2 (CI3 LIMITED) 3 November 2005 (03.11.2005) description, page 10, line 1 to page 19, line 17 and figures 1-6	1-16
A	CN 201283220 Y (HU, Jing) 5 August 2009 (05.08.2009) the whole document	1-16
A	CN 202010416 U (GUANGZHOU JIXING COMPUTER TECHNOLOGY CO., LTD.) 19 October 2011 (19.10.2011) the whole document	1-16

☐ Further documents are listed in the continuation of Box C. ☒ See patent family annex.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim (S) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
26 November 2013 (26.11.2013)	**19 Dec. 2013 (19.12.2013)**
Name and mailing address of the ISA/CN The State Intellectual Property Office, the P.R.China 6 Xitucheng Rd., Jimen Bridge, Haidian District, Beijing, China 100088 Facsimile No. 86-10-62019451	Authorized officer ZHANG, Yujie Telephone No. (86-10)62413561

Form PCT/ISA /210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2013/083439

Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
WO 2005/103869 A2	03.11.2005	None	
CN 201283220 Y	05.08.2009	None	
CN 202010416 U	19.10.2011	None	

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 272

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(71) Applicant: **BENSUSSEN DEUTSCH & ASSOCIATES, INC.** [US/US]; 15525 Woodinville-Redmond Road Northeast, Woodinville, Washington 98072 (US).

(72) Inventors: **CRAMER, Steven, Mitchell**; 7516 145th Avenue Northeast, Redmond, Washington 98052 (US). **ERICKSON, Craig, Stuart**; 1681 Abilene Circle, Rocklin, Washington 95765 (US). **HINDS, Treasure, Lynae**; 2213 Northwest 61st Street, Seattle, Washington 98107 (US). **JANKY, Gregory, Thomas**; 21229 Southeast 28th Street, Sammamish, Washington 98075 (US).

(74) Agents: **COSTANZA, Kevin, S.** et al.; Seed Intellectual Property Law Group PLLC, Suite 5400, 701 Fifth Avenue, Seattle, Washington 98104-7064 (US).

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[Continued on next page]

(54) Title: CONTROLLERS FOR USE WITH MOBILE DEVICES

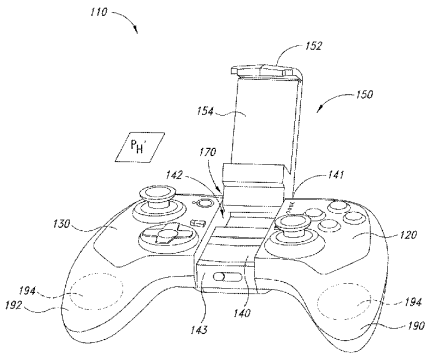


FIG. 5

(57) Abstract: A controller for use with a mobile device is provided. The controller includes a video game controller; and a mobile device holder including a frame, a lock member, and a spring. The frame is pivotably coupled to the video game controller to rotate between a range of setting angles with respect to the video game controller. The frame member is coupled to the lock member via a spring, such that the lock member is slidably moveable to a retracted and an extended configuration. The lock member is biased toward the retracted configuration by the spring to retain the mobile device in the mobile device holder during use. Other related controllers and systems for use with mobile devices are also provided.

WO 2014/201029 A1

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

— *with international search report (Art. 21(3))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

CONTROLLERS FOR USE WITH MOBILE DEVICES

BACKGROUND

Technical Field

The present disclosure is generally related to controllers, and more particularly, to controllers for use with mobile devices.

Description of the Related Art

Mobile devices are widely used for playing video games. Several video game developers have made available games especially suitable for playing on mobile devices, such as smart phones. Using touch screens or mobile device keys, however, may be unsuitable and may present challenges for effectively playing such games. Therefore, video game controllers may be used to play video games on mobile devices. The video game controllers may be connected to the mobile devices via a wireless connection or a wired connection.

Playing a video game connected to mobile devices may present further challenges because the mobile device may need to be placed on a different platform, such as a desk or a table, from the one the video game controller is placed on, thereby separating the video game controller from the mobile device. Placing the mobile device apart from the video game controller may reduce the effectiveness of a player with respect to the player's hand-eye coordination, concentration, and convenience. For example, the player may have to look in a downward direction to view the mobile device placed on a flat surface, while the video game controller is held in the player's hands, which may have an adverse impact on the player's concentration or hand-eye coordination. Similarly, if the player is travelling on a bus or train, for example, the player may not find a suitable surface to place the mobile device on, thereby making playing video games on mobile devices particularly inconvenient.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 275

BRIEF SUMMARY

The embodiments described herein provide controllers and related systems that are well adapted to provide a convenient and effective gaming environment.

According to one embodiment, a controller for use with a mobile device may be summarized as including a video game controller and a mobile device holder including a frame, a lock member, and a biasing means. The frame is pivotably coupled to the video game controller to rotate between a range of setting angles with respect to the video game controller, and the lock member is coupled to the frame to slidably move between a retracted configuration and an extended configuration for receiving the mobile device therein. Further, the lock member is biased toward the retracted configuration by the biasing means to retain the mobile device in the mobile device holder during use.

According to another embodiment, a system to clamp a mobile device during use may be summarized as including a video game controller; a mobile device holder including a lock member configured in a substantially L-shape; a frame also configured in a substantially L-shape, the frame including an opening for receiving the lock member to form a substantially C-shaped clamp; and a spring. The spring couples the lock member to the frame such that the lock member is slidably moveable between a retracted configuration and an extended configuration, wherein the lock member is biased toward the retracted configuration by the spring to retain the mobile device in the mobile device holder. The system also includes a hinge mechanism configured to pivotably couple the mobile device holder to the video game controller, such that the mobile device holder is rotatable between a range of setting angles with respect to the video game controller.

According to yet another embodiment, a controller for use with a mobile device may be summarized as including a videogame controller, a mobile device holder, and a counterbalance weight. The mobile device holder is pivotably coupled to a first end of the videogame controller to allow for varying of a setting angle with respect to the videogame controller, and the mobile device holder is configured to retain the mobile device during use, which may shift a center of gravity of the videogame

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 276

controller. The counterbalance weight is coupled to the videogame controller, where the counterbalance weight is selectively positioned at an opposed end with respect to the first end of the videogame controller to prevent the center of gravity shifting beyond a tip-over point.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

Figure 1 is an isometric view of a controller, according to one embodiment, wherein a mobile device holder is in an inclined and retracted configuration.

Figure 2 is a side elevational view of the controller of Figure 1, wherein the mobile device holder is shown in various angular settings and moveable configurations.

Figure 3 is a top isometric view of the controller of Figure 1, wherein the mobile device holder is in a closed and retracted configuration.

Figure 4 is a front view of the controller of Figure 1, wherein the mobile device holder is shown having received a mobile device.

Figure 5 is an isometric view of a controller, according to an alternate embodiment, wherein a mobile device holder is in an inclined and retracted configuration.

Figure 6 is a side elevational view of the controller of Figure 5, wherein the mobile device holder is shown in various angular settings and moveable configurations.

DETAILED DESCRIPTION

The following detailed description is directed toward devices and systems for using controllers with mobile devices. The following detailed description and corresponding figures are intended to provide an individual of ordinary skill in the art with enough information to enable that individual to make and use embodiments of the invention. Such an individual, however, having read this entire detailed description and reviewed the figures, will appreciate that modifications can be made to the illustrated and described embodiments, and/or elements removed therefrom, without

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 277

deviating from the spirit of the invention. It is intended that all such modifications and deviations fall within the scope of the invention, to the extent they are within the scope of the associated claims.

Unless the context requires otherwise, throughout the specification and claims which follow, the word "comprise" and variations thereof, such as, "comprises" and "comprising" are to be construed in an open, inclusive sense, that is, as "including, but not limited to."

Reference throughout this specification to "one embodiment" or "an embodiment" means that a particular feature, structure or characteristic described in connection with the embodiment is included in at least one embodiment. Thus, the appearances of the phrases "in one embodiment" or "in an embodiment" in various places throughout this specification are not necessarily all referring to the same embodiment. Furthermore, the particular features, structures, or characteristics may be combined in any suitable manner in one or more embodiments.

As used in this specification and the appended claims, the singular forms "a," "an," and "the" include plural referents unless the content clearly dictates otherwise. It should also be noted that the term "or" is generally employed in its sense including "and/or" unless the content clearly dictates otherwise.

Figures 1 through 3 illustrate an example embodiment of a controller 10 shown in various adjustable angular settings and moveable configurations. The controller 10 primarily includes a right side portion 20, a left side portion 30, a center portion 40, and a mobile device holder 50. As best seen in Figures 2 and 3, the mobile device holder 50 is rotatable to an open configuration O, a closed configuration C, and an inclined configuration I. Further, the mobile device holder 50 can be in a retracted configuration R or may be extended from a retracted configuration R to a fully extended configuration E. The center portion 40 includes opposing lateral ends 41, 43. At lateral end 41, the center portion 40 includes a first opening 44 adapted to receive therein the mobile device holder 50, such that the mobile device holder 50 can be pivotably coupled to the right and left side portions, 20, 30, via a hinge mechanism 70. The hinge mechanism 70 may include a biaxial hinge, a rotary hinge, a clamshell type hinge, or other forms of hinges that may permit the mobile device holder 50 to be rotatable at

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 278

various angle settings. As best seen in Figures 2 and 3, the hinge mechanism 70 permits the mobile device holder 50 to be oriented at various angles: in the open configuration O, the mobile device holder 50 can be substantially perpendicular to a horizontal reference plane P_H of the controller 10; in the closed configuration C, the mobile device holder 50 can be oriented substantially parallel to the horizontal reference plane P_H; and in the inclined configuration I, the mobile device holder 50 can be oriented at an angle α with respect to the horizontal reference plane P_H. Although in the shown embodiment, the angle α is about 135° with respect to the horizontal reference plane P_H in the inclined configuration I, an individual of ordinary skill in the art, having reviewed this entire disclosure, will immediately appreciate that variations to the orientation of the mobile device holder 50 in the inclined configuration can be made by simply configuring the hinge mechanism 70 such that the mobile device holder 50 may snap into position at any suitable angle α.

With reference to Figures 1 through 3, the mobile device holder 50 includes a frame 54, a lock member 52, and a spring 60. The frame 54 includes an aperture (not shown) extending through a lower portion 53 of the frame 54. The aperture allows a hinge shaft of the hinge mechanism 70 to pass through. At an upper end 51 of the frame 54, an opening 56 is provided for receiving the lock member 52. The opening 56 permits the lock member 52 to slidably move from a retracted configuration R to a fully extended configuration E. The spring 60 of the lock member 52 is biased towards the retracted configuration R. The spring 60 includes two opposing ends 61, 62. The end 62 of the spring 60 is coupled to an interior surface 57 of the lower portion 53 of the frame 54. The opposing end 61 of the spring 60 is coupled to the lock member 52 such that, as the lock member 52 is slidably extended, the biasing of the spring 60 forces the mobile device holder 50 to retract to the retracted configuration R. Although the shown embodiment includes one spring 60, in other embodiments, two springs or a multitude of springs may also be used.

With reference to Figures 1 and 2, the frame 54 is formed from a substantially L-shaped angle, including a base flange 71 and an upstanding flange 72. The lock member 52 is also formed from a substantially L-shaped angle that includes a base flange 74 and an upstanding flange 76. As the lock member 52 is mounted within

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 279

the frame 54 via spring 60, the mobile device holder 50 forms a substantially C-shaped clamp. Therefore, during use, to provide for a stable and convenient gaming environment, a user may slidably lift the lock member 52 toward the extended configuration E, until a suitable height is reached. Thereafter, as shown in Figure 4, a mobile device 80 may be positioned within the mobile device holder 50 and the lock member 52 may then be released until the mobile device 80 is sufficiently clamped in place. The mobile device 80 may be a smart phone, a tablet, a dumb phone, or any other mobile device. The mobile device 80 may be positioned within the mobile device holder 50 in any suitable orientation, such as a vertical or a horizontal orientation. To protect the mobile devices from scratches or other forms of damage and also to provide a firm grip when the mobile device 80 is received by the mobile device holder 50, grip pads 90 are coupled to the base flanges 71, 74 of the frame 54 and lock member 52, respectively.

Moreover, an individual of ordinary skill in the art, having reviewed this entire disclosure, will immediately appreciate that variations can be made to the mobile device holder 50 without deviating from the spirit of the invention. For instance, in the shown embodiment, the mobile device holder 50 is centrally positioned with respect to the controller 10 and is oriented in a vertical fashion with respect to the horizontal plane P_H during use; however, in other embodiments the mobile device holder 50 may be oriented in a horizontal fashion, such that the lock member and the frame may extend horizontally from a retracted configuration to a fully extended configuration. Similarly, although the shown embodiment retains the mobile device 80 through the frame 54 and the lock member 52 forming a C-shaped clamp, in other embodiments, the mobile device holder 50 may not include the lock member 52 and may retain the mobile device 80 by using suitable attaching means, such as Velcro, for example.

With reference back to Figures 1 through 3, the first opening 44 extends through the center portion 40, and the size of the first opening 44 is configured to permit rotation of the mobile device holder 50 without interfering with the center portion 40. Although in the embodiment shown, the opening 44 extends through the center portion 40, in other embodiments, the opening may be a recess adapted to receive therein the mobile device holder 50 and also permitting rotation thereof without

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 280

interference with the center portion 40. At the other lateral end 43 of the center portion 40, the center portion 40 includes a second opening 45, which also extends through the center portion 40. As best seen in Figure 3, the second opening 45 is configured for receiving the base flange 74 of the lock member 52, such that in the closed C and retracted R configurations, an external surface 75 of the base flange 74 is substantially flush with external surfaces 25, 35 of the right side portion 20 and the left side portion 30, respectively. The center portion 40 further includes a recess 42 that is configured for receiving the frame 54 of the mobile device holder 50. As best seen in Figure 3, in the closed configuration C and the retracted configuration R, the depth of the recess 42 is adapted such that an external surface 59 of the frame 54 and an external surface 58 of the lock member 52 are substantially flush with each other and with an upper surface 32 of the left side portion 30 and an upper surface 22 of the right side portion 20. Further, the recess 42 is adapted to function as a stop when the mobile device holder 50 is rotated to the closed configuration C.

Figures 5 and 6 illustrate a controller 110, according to another embodiment. The controller 110 includes a right side portion 120, a left side portion 130, a center portion 140, and a mobile device holder 150. The mobile device holder 150 is rotatable to an open configuration O′, closed configuration C′ (not shown), and an inclined configuration I′ via a hinge mechanism 170. The mobile device holder 150 includes a lock member 152, a frame 154, and a spring 160. The lock member 152 is slidably extendable to a fully extended configuration E′ and retractable to a retracted configuration R′ in all three open O′, closed C′, and inclined I′ configurations, thereby permitting the mobile device holder 150 to receive therein a mobile device (not shown).

With continued reference to Figures 5 and 6, the center portion 140 includes a substantially C-shaped recess 142 that extends laterally from a lateral end 141 to an opposing lateral end 143. The C-shaped recess 142 is adapted for receiving therein the mobile device holder 150, such that the mobile device holder 150 can be hingedly coupled to the right and left side portions 120, 130 at the end 141. The depth of the recess 142 at the end 141 is further configured to permit rotation of the mobile device holder 150 without interference with the center portion 140. The depth of the recess 142 at the opposing lateral end 143 is configured for receiving therein the lock

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 281

member 152 of the mobile device holder 150 in the closed configuration C′. Still further, the recess 142 is configured such that the mobile device holder 150 sits substantially flush with the right and left side portions 120, 130 in the horizontal and vertical directions in the closed configuration C′.

With continued reference to Figures 5 and 6, the right side and left side portions 120, 130 include respective hollow grips 190, 192. The hollow grips 190, 192 may be made of rubber or other suitable material that provides sufficient gripping ability and facilitates moisture absorption. The hollow grips 190, 192 are configured for receiving therein respective weights 194, which are positioned within the hollow grips 190, 192 such that the weights 194 counterbalance a shift in the center of gravity that results when the mobile device holder 150 receives a mobile device (not shown). For instance, if the mobile device holder 150 is not oriented perfectly upright, forming a right angle with a horizontal reference plane P_H' of the controller 110, then a horizontal force component results that applies a tipping force to the controller 110. The weights 194 positioned at an opposing end of the controller 110, however, counterbalance the tipping force and therefore keep the controller 110 balanced and stable. Although the embodiment shown includes hollow grips, an individual of ordinary skill in the art, having reviewed this entire disclosure, will immediately appreciate that further variations can be made to the controller 110 without deviating from the spirit of the invention. For instance, the right side and left side portions, 120, 130 may not include hollow grips and the weights may be positioned within the right side and left side portions 120, 130. Further, the weights may be of any suitable shape, such as spherical shaped, hockey puck shaped, square shaped, or another suitable shape. The weights may be attached to the controllers via adhesives, a suitably shaped housing within the controllers may be provided to house the weights, or other suitable means may be used to attach the weights to the controllers. Still further, the weights may be made of lead, rubber, or any other material with appropriate densities that will aid in counterbalancing the shift in the center of gravity.

Moreover, the various embodiments described above can be combined to provide further embodiments. All of the U.S. patents, U.S. patent application publications, U.S. patent applications, foreign patents, foreign patent applications and

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 282

non-patent publications referred to in this specification and/or listed in the Application Data Sheet are incorporated herein by reference, in their entirety. Aspects of the embodiments can be modified, if necessary to employ concepts of the various patents, applications and publications to provide yet further embodiments.

These and other changes can be made to the embodiments in light of the above-detailed description. In general, in the following claims, the terms used should not be construed to limit the claims to the specific embodiments disclosed in the specification and the claims, but should be construed to include all possible embodiments along with the full scope of equivalents to which such claims are entitled. Accordingly, the claims are not limited by the disclosure.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 283

CLAIMS

1. A controller for use with a mobile device comprising:

a video game controller; and

a mobile device holder including a frame, a lock member, and a biasing means, wherein:

the frame is pivotably coupled to the video game controller to rotate between a range of setting angles with respect to the video game controller;

the lock member is coupled to the frame to slidably move between a retracted configuration and an extended configuration for receiving the mobile device therein, the lock member is biased toward the retracted configuration by the biasing means to retain the mobile device in the mobile device holder during use.

2. The controller of claim 1 wherein the mobile device holder is adapted to retain a smart phone.

3. The controller of claim 1 wherein the lock member and the frame are configured to form a C-shaped clamp to retain the mobile device in the mobile device holder during use.

4. The controller of claim 1 wherein the frame is pivotably coupled to the video game controller via a hinge mechanism.

5. The controller of claim 1 wherein the video game controller includes a right side portion, a left side portion, and a center portion, the center portion including an opening at a first lateral end of the video game controller to pivotably couple the mobile device holder.

6. The controller of claim 5 wherein the mobile device holder is rotatable to at least a closed setting, an open setting, and an inclined setting.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 284

7. The controller of claim 6 wherein the frame is configured in a substantially L-shape.

8. The controller of claim 7 wherein the lock member is configured in a substantially L-shape.

9. The controller of claim 8 wherein an external surface of a base flange of the lock member is substantially flush with a second lateral end of the video game controller in the closed setting and the retracted configuration, the second lateral end being an opposed end of the first lateral end.

10. The controller of claim 8 wherein an external surface of an upstanding flange of the frame and an external surface of an upstanding flange of the lock member is substantially flush with an upper surface of the right side portion and an upper surface of the left side portion in the closed setting and the retracted configuration.

11. The controller of claim 8 further comprising:

a pair of grips to protect the mobile device from damage, wherein each grip is coupled to a respective interior surface of a base flange of the lock member and a base flange of the frame, each interior surface contacting the mobile device during use.

12. A system to clamp a mobile device during use, the system comprising:

a video game controller;

a mobile device holder including:

a lock member configured in a substantially L-shape

a frame configured in a substantially L-shape, the frame including an opening for receiving the lock member to form a substantially C-shaped clamp; and

a spring, the spring coupling the lock member to the frame such that the lock member is slidably moveable between a retracted configuration and an extended

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 285

configuration, wherein the lock member is biased toward the retracted configuration by the spring to retain the mobile device in the mobile device holder; and

a hinge mechanism configured to pivotably couple the mobile device holder to the video game controller, such that the mobile device holder is rotatable between a range of setting angles with respect to the video game controller.

13. The system of claim 12 wherein the video game controller includes a center portion with an opening, the opening configured to receive the mobile device, such that the mobile device holder is rotatable without interference with the center portion.

14. The system of claim 12 wherein the video game controller includes a center portion with a recess, the recess configured to receive the mobile device, such that the mobile device holder is rotatable without interference with the center portion.

15. The system of claim 12 wherein the mobile device holder is rotatable to at least a closed setting, an open setting, and an inclined setting.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 286

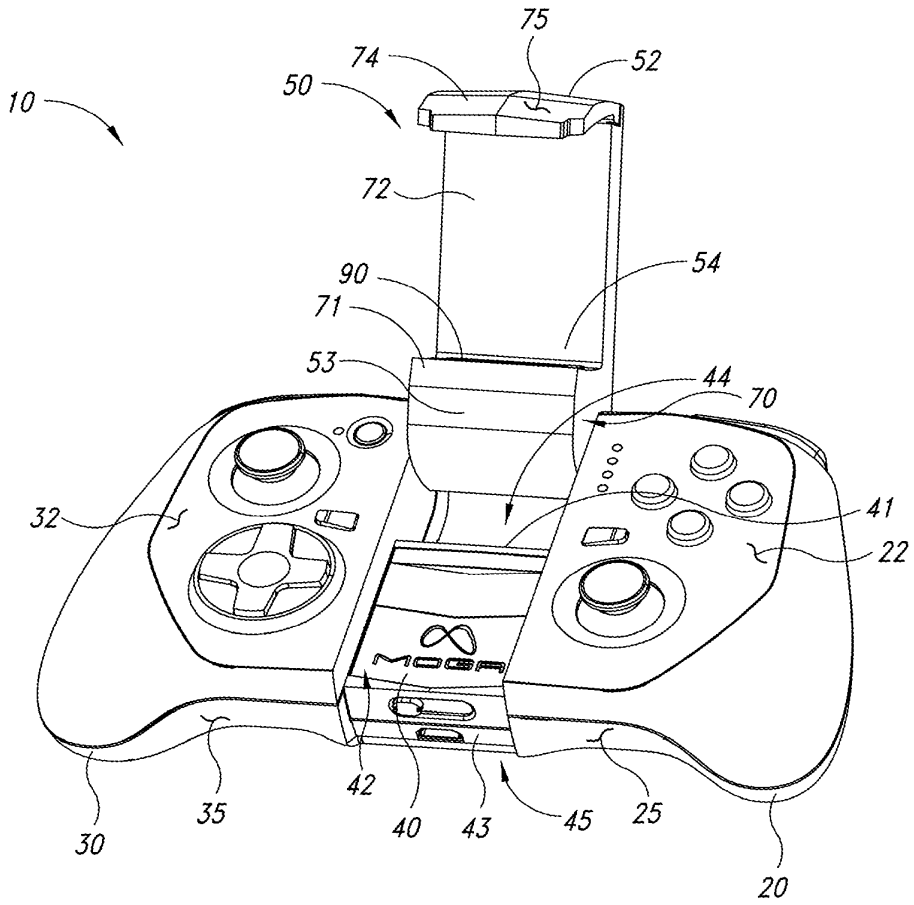


FIG. 1

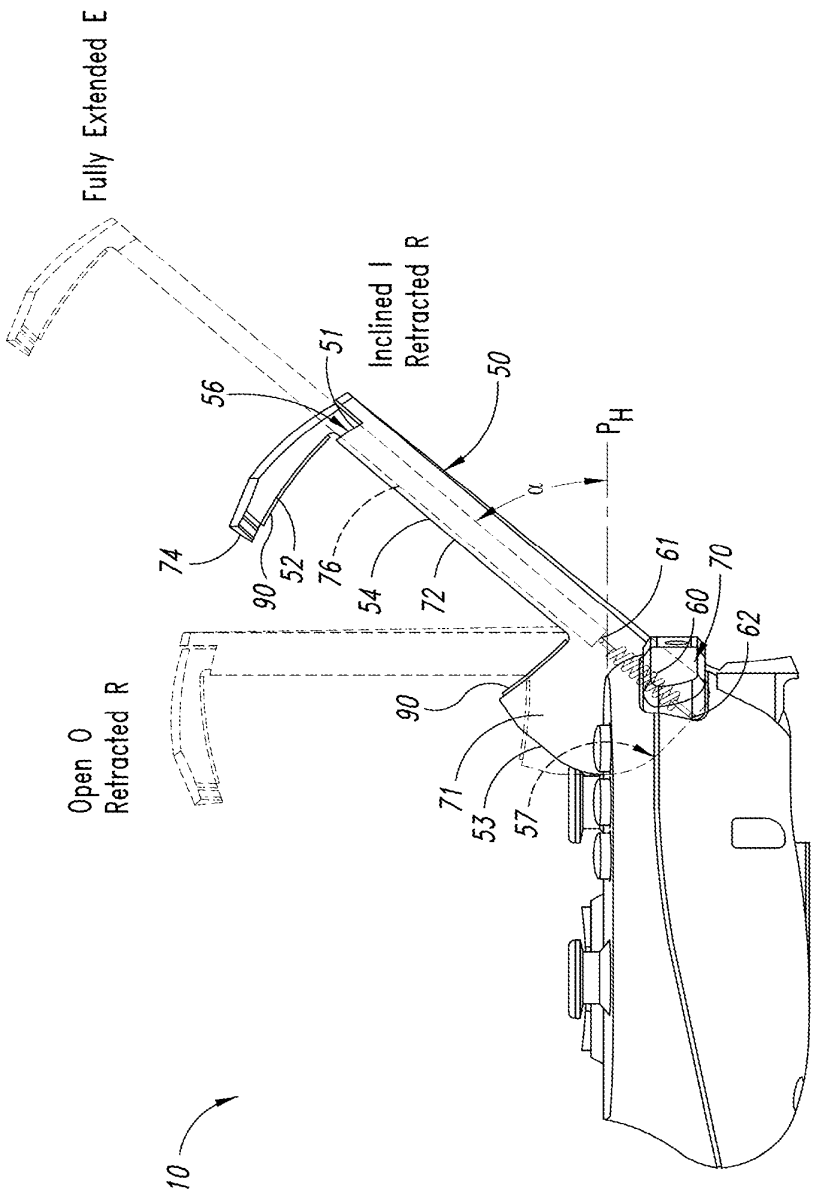

Fully Extended E
Inclined I
Retracted R
Open O
Retracted R
10
50
51
52
53
54
56
57
60
61
62
70
71
72
74
76
90
90
P_H
α

FIG. 2

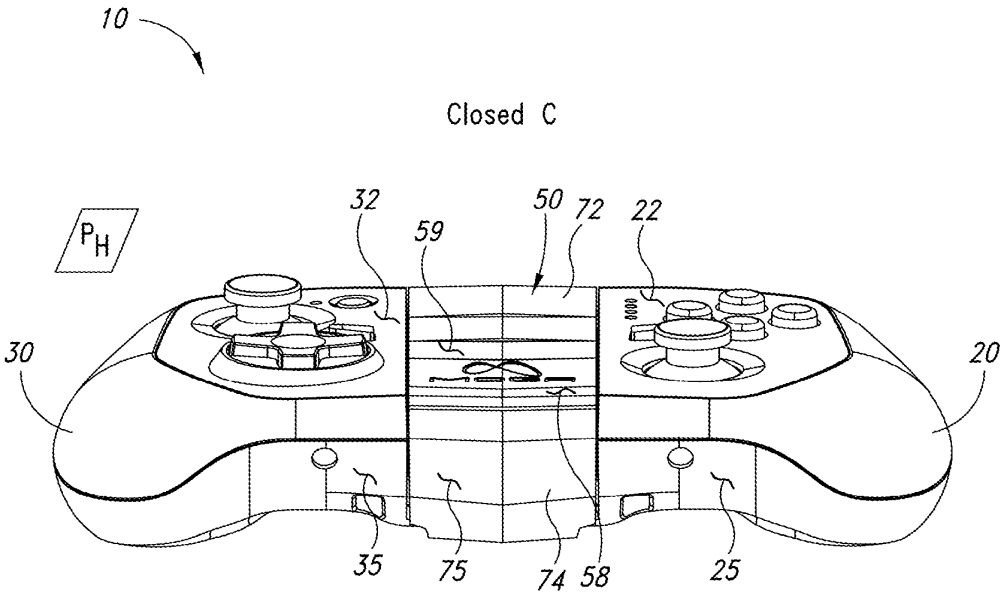


FIG. 3

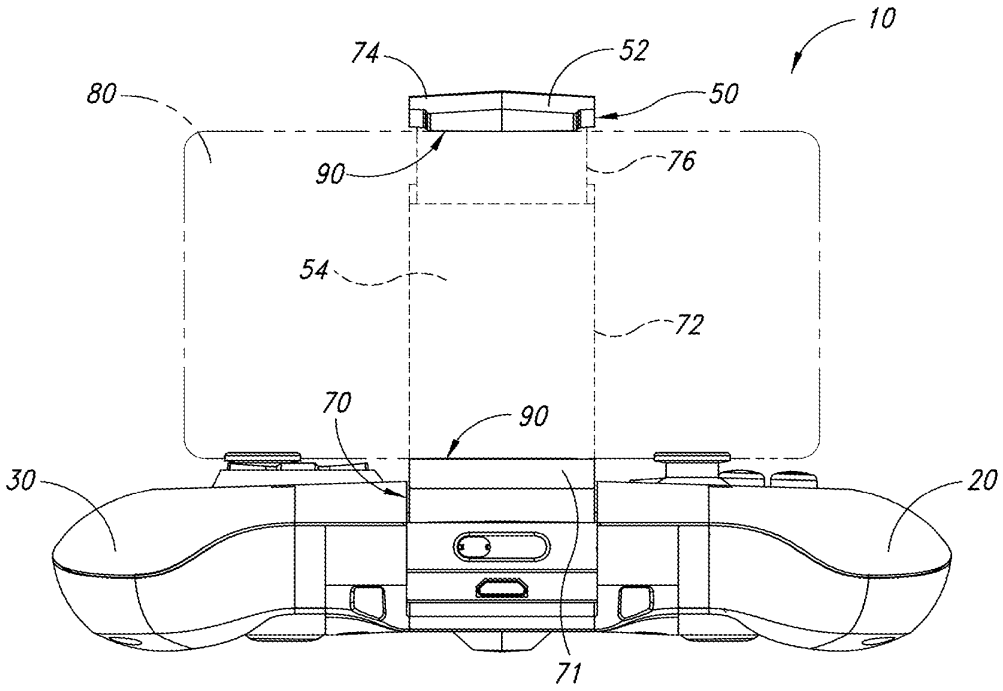


FIG. 4

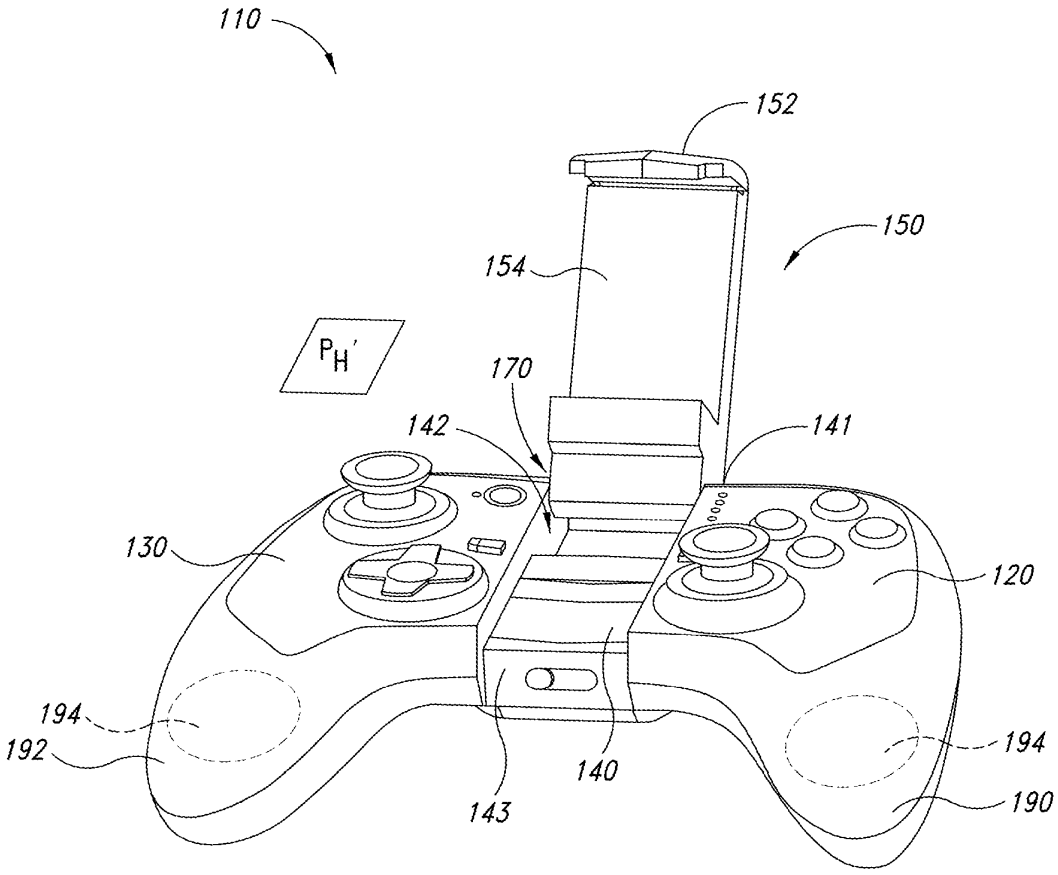


FIG. 5

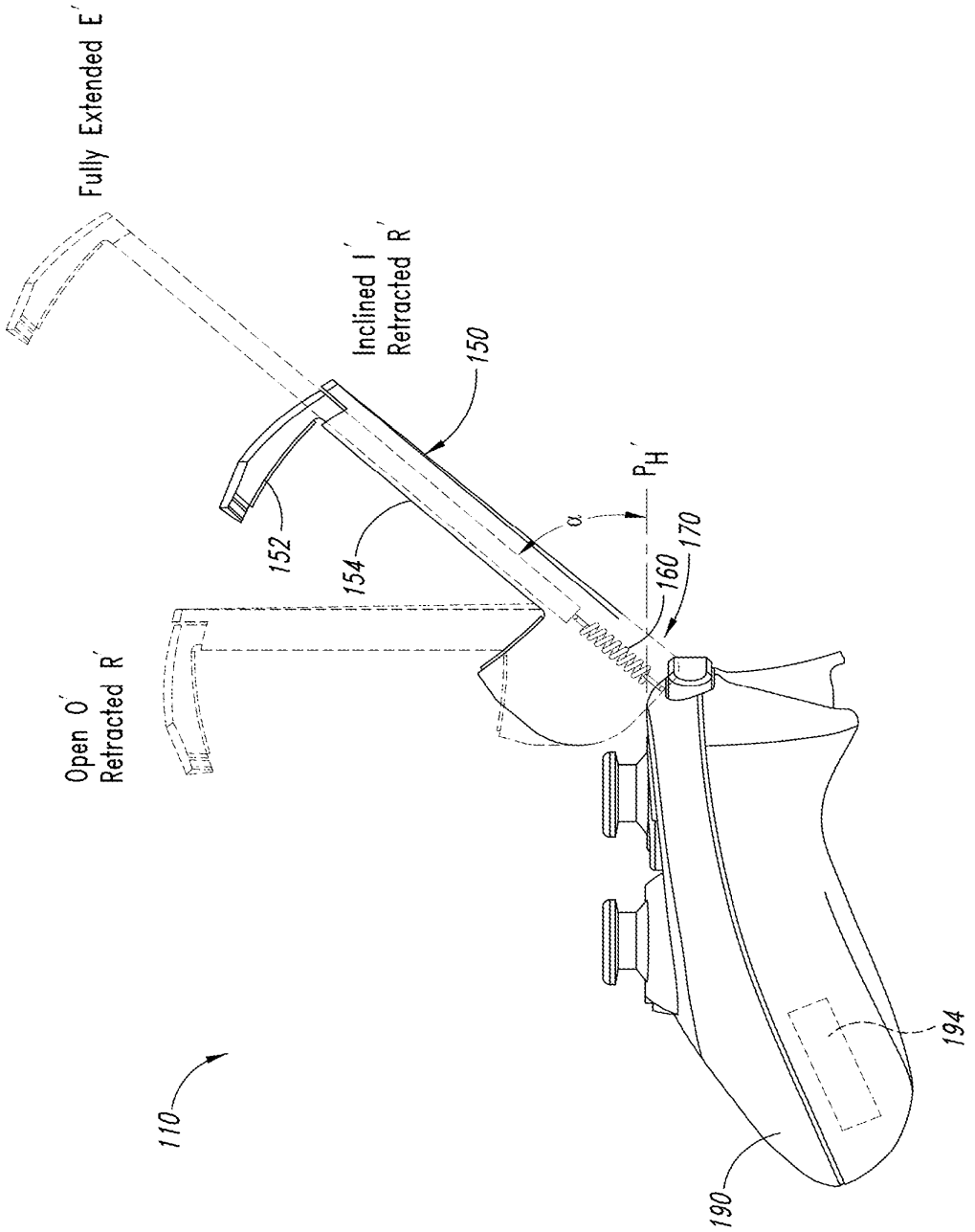

Fully Extended E'
Inclined I'
Retracted R'
150
152
154
α
P_H'
160
170
Open O'
Retracted R'
110
190
194

FIG. 6

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2014/041756

A. CLASSIFICATION OF SUBJECT MATTER
INV. A63F13/24 A63F13/23 A63F13/20
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A63F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, PAJ, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Anonymous: "MOGA Pocket and MOGA Pro Review", International Business Times , 7 June 2013 (2013-06-07), XP002729825, Retrieved from the Internet: URL:http://www.ibtimes.co.uk/moga-pro-pocket-review-android-e3-modern-476158 [retrieved on 2014-09-11] the whole document ----- -/--	1-15

[X] Further documents are listed in the continuation of Box C. [ ] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
17 September 2014	07/10/2014

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Garton, Paul

Form PCT/ISA/210 (second sheet) (April 2005)

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Ex. 1009, IPR2023-00643, Pg. 293

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Nic Vargus: "E3 2012: The Moga and Moga Pro, Android Phone and Tablet Controllers", IGN , 7 June 2012 (2012-06-07), XP002729826, Retrieved from the Internet: URL:http://www.ign.com/articles/2012/06/08/e3-2012-the-moga-and-moga-pro-android-phone-and-tablet-controllers [retrieved on 2014-09-11] the whole document -----	1-15
X	Anonymous: "Moga Pro Controller", PCMAG , 30 April 2013 (2013-04-30), XP002729827, Retrieved from the Internet: URL:http://www.pcmag.com/article2/0,2817,2418273,00.asp [retrieved on 2014-09-11] abstract -----	1-15
X	Slashgear: "MOGA Pro controller video review", youtube , 18 April 2013 (2013-04-18), XP054975513, Retrieved from the Internet: URL:https://www.youtube.com/watch?v=FD14LKqlR8I [retrieved on 2014-09-12] the whole document -----	1-15

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Ex. 1009, IPR2023-00643, Pg. 294

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Filer:	Daniel Paul Dooley/Priscilla Anderson
Attorney Docket Number:	OKC03962.2

Filed as Small Entity

Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	75	75
UTILITY SEARCH FEE	2111	1	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2000	2000
Pages:				
Claims:				
CLAIMS IN EXCESS OF 20	2202	9	50	450
INDEPENDENT CLAIMS IN EXCESS OF 3	2201	4	230	920

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous-Filing:				
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**4225**

Electronic Acknowledgement Receipt	
EFS ID:	34677067
Application Number:	16230186
International Application Number:	
Confirmation Number:	4427
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE
First Named Inventor/Applicant Name:	Fraser Townley
Customer Number:	33900
Filer:	Daniel Paul Dooley/Priscilla Anderson
Filer Authorized By:	Daniel Paul Dooley
Attorney Docket Number:	OKC03962.2
Receipt Date:	21-DEC-2018
Filing Date:	
Time Stamp:	15:54:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$4225
RAM confirmation Number	122618INTEFSW15551000
Deposit Account	
Authorized User	
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	2018-12-21-ADS.PDF	166938 4985fe9492351edb8236f05e3ac37cfebe45a971	no	9
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
2	Transmittal Letter	2018-12-21-NewAppTransmittal.PDF	36242 7b279deed94b8446264df4ea29a87a0946aa9344	no	4
Warnings:					
Information:					
3	TrackOne Request	2018-12-21-ReqForPrioritizedExam.PDF	82774 e7022c7d1856e10393c5fdd29a2a005c819d91d1	no	1
Warnings:					
Information:					
4		2018-12-21-Application.PDF	168980 69fdc0113e04073c72d6d6a8f9c86453fc679cdd	yes	46

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Abstract	46	46
	Claims	29	45
	Specification	1	28

Warnings:
Information:

5	Drawings-only black and white line drawings	2018-12-21-Drawings.PDF	9610237 0612c0d5bf3da36b3d8e98d924cdb3bc1ab3bfda	no	40
Warnings:					
Information:					
6	Oath or Declaration filed	2018-12-21-Declarations.pdf	317365 ad3b1f64f9d0a2bc67f136dc7c50afc5f5b91b8f	no	5
Warnings:					
Information:					
7	Power of Attorney	2018-12-21-POA.pdf	2424346 a8057459ba0eb438da13fabe79dce629148b248b	no	2
Warnings:					
Information:					
8	Transmittal Letter	2018-12-21-Transmittal-IDS.PDF	41616 e04ee4057c07ad16858347324494a386ad162e1f	no	2
Warnings:					
Information:					
9	Information Disclosure Statement (IDS) Form (SB08)	2018-12-21-IDS.PDF	126987 57d1bb732bf65dc47e50942558709 4030a5e3c53	no	12
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10	Foreign Reference	2018-12-21-FR-CN201283220.pdf	160931 6c29cb074dd7b07b371f83c6fbd46d75f0b8898a	no	7
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11	Foreign Reference	2018-12-21-FR-JP2002-196859.pdf	683189 d77717cd2165625c7c25d722c0f81cbdae745507	no	13
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12	Foreign Reference	2018-12-21-FR-JP2003-018275.pdf	1130248 511636c4451ebed65fbda572f86470702ae0c86e	no	26
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13	Foreign Reference	2018-12-21-FR-KR-10-2011-0116892.pdf	808670 4422774abbe31514b419336203528d8336580c4f	no	15
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14	Foreign Reference	2018-12-21-FR-WO2014079264.pdf	1766196 b9232d35a37a866b89a98882e829c75c107e4249	no	40
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15	Foreign Reference	2018-12-21-FR-WO2014201029.pdf	776046 9728f533fb5fd5aaa6976cccded34c763114d83b	no	22
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Information:					
16	Non Patent Literature	2018-12-21-NPL-1.pdf	165047 33aea62db587985720fa1569d3760f35e447d3d4	no	3
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Information:					
17	Non Patent Literature	2018-12-21-NPL-2.pdf	1001959 4da27f414f807893b8b05714cefbf197410b5cf0	no	13
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Information:					
18	Non Patent Literature	2018-12-21-NPL-3.pdf	158865 e1f4748c9c5b71fb53e69e967645f305f22c246f	no	2
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Information:					

19	Non Patent Literature	2018-12-21-NPL-4.pdf	175306 36a0b3e5ec3af191b2505b4c1b00d78a7448652f	no	2
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20	Non Patent Literature	2018-12-21-NPL-5.pdf	1091121 1ee9f22d5e6ba23359e38394844f8f8362d8daae	no	7
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21	Fee Worksheet (SB06)	fee-info.pdf	43199 0474af9979c00a44e0529063d5cfe4e76b5a6091	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	20936262		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Fraser		Townley	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Pembroke	State/Province	MA	Country of Residence	US

Mailing Address of Inventor:

Address 1	247 Taylor Street		
Address 2			
City	Pembroke	State/Province	MA
Postal Code	02359	Country	

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Kelly		Gamble	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Simi Valley	State/Province	CA	Country of Residence	US

Mailing Address of Inventor:

Address 1	653 Warrendale Ave.		
Address 2			
City	Simi Valley	State/Province	CA
Postal Code	93065	Country	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Daniel	P.	Dooley	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

City	Oklahoma City	**State/Province**	OK	**Country of Residence**	US

Mailing Address of Inventor:

Address 1	13009 Green Valley Dr.		
Address 2			
City	Oklahoma City	**State/Province**	OK
Postal Code	73120	**Country**	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	33900		
Email Address	ddooley@hallestill.com	Add Email	Remove Email

Application Information:

Title of the Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE		
Attorney Docket Number	OKC03962.2	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	40	**Suggested Figure for Publication (if any)**	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

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Ex. 1009, IPR2023-00643, Pg. 303

PTO/AIA/14 (02-18)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	(●) Customer Number	( ) US Patent Practitioner	( ) Limited Recognition (37 CFR 11.9)
Customer Number	33900		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	15858299	2017-12-29

Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15858299	Continuation of	15663171	2017-07-28	9855498	2018-01-02
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15663171	Continuation of	15457571	2017-03-13	9757649	2017-09-12
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15457571	Continuation in part of	14840184	2015-08-31	9592453	2017-03-14
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14840184	Continuation in part of	14611804	2015-02-02	9126119	2015-09-08
Prior Application Status	Patented				Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14611804	Continuation in part of	13779987	2013-02-28	8529357	2013-09-10

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 304

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13779987	Continuation in part of	13681153	2012-11-19	8944912	2015-02-03
Prior Application Status	Patented			Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
13681153	Continuation in part of	13494801	2012-06-12	9005026	2015-04-14
Prior Application Status	Expired		Remove		
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)		
13494801	Claims benefit of provisional	61577709	2011-12-20		

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button.

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 305

PTO/AIA/14 (02-18)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 306

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

(•) Assignee	( ) Legal Representative under 35 U.S.C. 117	( ) Joint Inventor
( ) Person to whom the inventor is obligated to assign.	( ) Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. [x]

Organization Name	Gamevice, Inc.		
Mailing Address Information For Applicant:			
Address 1	685 Cochran Street		
Address 2	Suite 200		
City	Simi Valley	**State/Province**	CA
Country	US	Postal Code	93065
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button.

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 307

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Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	**Given Name**	Middle Name	**Family Name**	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.

Signature:

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Daniel P. Dooley/			Date (YYYY-MM-DD)	2018-12-21
First Name	Daniel	Last Name	Dooley	Registration Number	46,369

Additional Signature may be generated within this form by selecting the Add button.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 308

PTO/AIA/14 (02-18)
Approved for use through 11/30/2020. OMB 0651-0032
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	OKC03962.2
	Application Number	
Title of Invention	GAME CONTROLLER WITH STRUCTURAL BRIDGE	

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 309

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 310

Practitioner's Docket No. OKC03962.2 ***PATENT***

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Fraser Townley, Kelly D. Gamble and Daniel P. Dooley
Application No.: Not yet assigned
Filed: December 21, 2018
For: GAME CONTROLLER WITH STRUCTURAL BRIDGE

CERTIFICATE OF EFS SUBMISSION (CEFS)(37 C.F.R. § 1.8(a)(i)(1)(C))

I hereby certify that on December 21, 2018 the following correspondence is being submitted to the Patent and Trademark Office via the Office Electronic Filing System in accordance with § 1.6(a)(4):

Name of Paper:	New application transmittal, ADS, specification, claims, abstract, drawings, power of attorney, inventors' declarations, request for prioritized exam, copy of notification of filing of continuing application as filed in parent application, information disclosure statement, foreign references and non-patent references.
No. of Pages:	272
Fees:	Filing, search, examination, fees; additional claims fees; request for prioritized examination fee.
Amount:	$4,155
Payment By:	Credit card

/Priscilla Anderson/
Signature

Telephone Number: 405-553-2308

Priscilla Anderson
Type or print name of person certifying

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 311

Filed Electronically on December 21, 2018 ***PATENT***
Dkt No. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): Fraser Townley, Kelly D. Gamble and Daniel P. Dooley

For (title): GAME CONTROLLER WITH STRUCTURAL BRIDGE

1. Type of Application

This application is for a continuation.

2. Benefit of Prior U.S. Application (35 U.S.C. §§ 119(d), 120 or 121)

The new application being transmitted claims the benefit of prior U.S. application. Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

3. Papers Enclosed

A. Required for filing date under 37 C.F.R. § 1.53(b) (Regular) or 37 C.F.R. § 1.153 (Design) Application

28 Page(s) of Specification
17 Page(s) of Claims
40 Sheet(s) of Drawing(s)--Formal

B. Other Papers Enclosed

2 Page(s) of power of attorney
1 Page(s) of abstract
12 Page(s) of Information Disclosure Statement (37 C.F.R. § 1.98), including Forms PTO/SB/08A &08B
1 Page(s) of Copy of Notification of Filing of Continuing Application as filed in parent application

4. Declaration or Oath

Enclosed and executed by inventors.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 312

5. Inventorship Statement

The inventorship for all the claims in this application is the same.

6. Language

English

7. Assignment

An assignment of the invention to Wikipad, Inc will follow.

8. Fee Calculation

	Utility Application	
Basic fee	Fee Code 1011,2011, §1.16(a)(1))	$ 75.00
Search fee	Fee Code 1111,2111, §1.16(k)	$330.00
Examination fee	Fee Code 1311, 2311, §1.16(o)	$380.00
Request for prioritized exam	Fee Code 1817, 2817, §1.17(c)	$2,000.00
9 Claims in excess of 20	Fee Code 1202, 2202, §1.16(i)	$450.00
4 Independent claims in excess of 3	Fee Code 1201, 2201, §1.16(h)	$920.00
	Total utility filing fee calculation	**$4,155.00**

9. Method of Payment of Fees

Authorization is hereby made to charge the amount of $4,155.00 to credit card as shown on the attached electronic credit card information authorization. Charge any additional fees required by this paper to Deposit Account number 506295.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 313

Practitioner's Docket No. OKC03962.2 *PATENT*

ADDED PAGES FOR APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED (37 C.F.R. § 1.78)

10. Relate Back - 35 U.S.C. § 120, 121 AND 365(c)

This application is a continuation-in-part of copending application number 15/858,299 filed on December 29, 2017.

11. Further Inventorship Statement Where Benefit of Prior Application(s) Claimed

This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventors in this application are the same.

11. Notification In Parent Application of This Filing

A notification of the filing of this continuation is being filed in the parent application, from which this application claims priority under 35 U.S.C. § 120.

Respectfully submitted,

Date: December 21, 2018 /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys at Law
100 North Broadway, Suite 2900
Oklahoma City, OK 73102
Telephone: 405-553-2828
Customer No. 33900

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Ex. 1009, IPR2023-00643, Pg. 314

Doc Code: PA..
Document Description: Power of Attorney

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TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	
Filing Date	December 21, 2018
First Named Inventor	Fraser Townley
Title	GAME CONTROLLER WITH STRUCTURAL BRIDGE
Art Unit	
Examiner Name	
Attorney Docket Number	OKC03962.2

SIGNATURE of Applicant or Patent Practitioner

Signature	/Daniel P. Dooley/	Date (Optional)	Dec. 21, 2018
Name	Daniel P. Dooley	Registration Number	46369
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
	December 21, 2018

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☑ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 33900

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☑ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Wikipad, Inc.

☐ Inventor or Joint Inventor (title not required below)

☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)

☑ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)

☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature	Olympia Chu	Date (Optional)	07/14/2017
Name	Olympia Chu		
Title	Wikipad, Inc. - Chief Financial Officer		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Filed Electronically on December 21, 2018 *PATENT*
Dkt. OKC03962.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent application of: **Fraser Townley, Kelly Gamble and Daniel P. Dooley**

for **GAME CONTROLLER WITH FLEXIBLE BRIDGE**, the specification of which is being transmitted herewith.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

1. Preliminary Statements
2. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
3. Identification of Person(s) Making This Information Disclosure Statement
4. Forms PTO/SB/08A and 08B (formerly Form PTO-1449)

Section 1. Preliminary statements

Applicant submits herewith a list of patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Section 2. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application 15/858,299, filed on December 29, 2017;

SN 15/858,299, filed on December 29, 2017 relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN: 15/663,171, filed on July 28, 2017;

SN 15/661,171 filed on July 28, 2017 relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN: 15/457,571, filed on March 13, 2017;

S/N 15/457,571 filed on March 13, 2017 relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN: 14/840,184, filed on August 31, 2015;

S/N 14/840,184 filed on August 31, 2015 relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN: 14/611,804, filed on February 2, 2015;

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 317

SN 14/611,804 filed on February 2, 2015 relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN: 13/681,153, filed on November 19, 2012;

SN 13/681,153 filed on November 19, 2012 relies, under 35 U.S.C. § 120, on the earlier filing date of prior application SN: 13/494,801, filed on June 12, 2012; and

SN 13/494,801 filed on June 12, 2012 relies, under 35 U.S.C. § 119, on the earlier filing date of prior application SN: 61/577,709, filed on December 20, 2011.

The references listed in the attached PTO/SB/08A were submitted to, and/or cited by, the Office in the prior applications and, therefore, are not required to be provided in this application.

Section 3. Identification of Person Making This Information Disclosure Statement

The person making this certification is the practitioner who signs below on the basis of the information supplied by the inventor(s) and in the practitioner's file.

Respectfully submitted,

Date: December 21, 2018 /Daniel P. Dooley/

Daniel P. Dooley, Registration No. 46,369
Hall Estill Attorneys At Law
100 North Broadway, Suite 2900
Oklahoma City, OK 73102
Telephone: 405-553-2828
Fax: 405-553-2855
Customer No. 33900

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Ex. 1009, IPR2023-00643, Pg. 318

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PTO/AIA/424 (04-14)

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	Fraser Townley	Nonprovisional Application Number (if known):	
Title of Invention:	GAME CONTROLLER WITH STRUCTURAL BRIDGE		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☑ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, **or** the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Daniel P. Dooley/	Date Dec. 21, 2018
Name (Print/Typed) Daniel P. Dooley	Practitioner Registration Number 46369

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☑ *Total of 1 forms are submitted.

GAME CONTROLLER WITH STRUCTURAL BRIDGE

Abstract of the Disclosure

A device directed to a combination computing and input device. The computing device providing a plurality of sides, each of the plurality of sides are disposed between an electronic display screen and a back of the computing device. The input device communicates with the computing device and provides a pair of control modules adjacent to and confining the computing device on at least two opposing sides of the computing device. The input device further provides a structural bridge securing the pair of control modules one to the other, and a touch sensitive input module. The structural bridge adaptively and snugly accommodate the length of the computing device. A first of the pair of control modules features a retention mechanism communicating with the structural bridge. The retention mechanism adaptively secures the structural bridge such that the pair of control modules snugly accommodate the length of the computing device.

What is claimed is:

1. A combination comprising:

a computing device;

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the computing device;

a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge comprising a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and

a pair of electronic game control modules, each electronic game control module of the pair of electronic game control modules is secured to and interacts with a corresponding confinement structure of the pair of confinement structures, each electronic game control module in electronic communication with the communication link of its corresponding confinement structure, wherein each electronic game control module is a separate and distinct structure from each of their corresponding confinement structures, forming no structural portion of their corresponding confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from

the structural bridge, forming no structural portion of the structural bridge.

2. The combination of claim 1, in which the rigid structural bridge supports electronics associated with the computing device.

3. The combination of claim 2, in which the computing device further comprising a back, the back provides an internal surface, an external surface and cooperates with the at least two opposing sides of the computing device.

4. The combination of claim 3, in which the rigid structural bridge cooperates with the back of the computing device.

5. The combination of claim 4, in which the rigid structural bridge cooperating with the back of the computing device is adjacent to the external surface of the back of the computing device.

6. The combination of claim 4, in which the computing device comprises an electronic display screen, and wherein at least one electronic game control module of the pair of electronic game control modules passes signals through its corresponding communication link to the computing device, the signals passed to the computing device controlling images displayed on the electronic display screen of the computing device.

7. The combination of claim 2, in which the electronics supported by the rigid structural bridge is a communication module associated with the computing device.

8. A combination comprising:

a structural bridge, the structural bridge having a first end associated with a first electronic game control module of a pair of electronic game control modules and a second end associated with a second electronic game control module of the pair of electronic game control modules, the structural bridge configured for adaptation to a computing device, the computing device having a length greater than its width, the structural bridge accommodates the length of the computing device, and in which the structural bridge provides a void, the void disposed between the first end of the structural bridge and the second end of the structural bridge, the void having right, left, upper, and lower sides, each side of the void communicating with a material of the structural bridge.

9. The device of claim 8, in which the first of the pair of electronic game control modules further comprises a retention mechanism, a bottom cover, wherein the bottom cover provides a position guide, and in which the retention mechanism comprises:

an attachment boss communicating with the structural bridge;

an attachment support cooperating with the attachment boss, the attachment support in cooperation with the attachment boss secures the structural bridge, the structural bridge disposed between the attachment boss and the attachment support; and

a biasing structure communicating with the attachment support, the biasing structure provides tension between the structural bridge and the second of the pair of electronic game control modules.

10. The device of claim 9, in which the attachment support comprises a guide aperture interacting with the position guide, the interaction of the guide aperture with

the position guide maintains alignment between the structural bridge and the second of the pair of electronic game control modules.

11. The device of claim 9, in which at least one of the pair of electronic game control modules is a video game control module, and in which the video game control module passes signals to the computing device, the signals control images displayed on an electronic display screen of the computing device.

12. A combination comprising:

a first electronic game control module of a pair of electronic game control modules, and a second electronic game control module of the pair of electronic game control modules each the first and the second electronic game control modules includes at least a plurality of instructional input devices, and at least one of the first and the second electronic game control modules further comprising a restraint, the restraint providing at least a spring member; and

a structural bridge interposed between said first and second electronic game control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first electronic game control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second electronic game control module, said structural bridge still further comprising a retention mechanism, the retention mechanism providing at least a boss, an interaction of the spring member of the restraint with the boss of the retention mechanism couples the structural bridge to at least one of the first and the second electronic game control modules.

13. The combination of claim 12, further comprising a computing device, the computing device comprising an upper, lower, left and right side, collectively the sides of the computing device, the computing device disposed between and in contact adjacency with each the first and second electronic game control modules of the pair of electronic game control modules, the pair of electronic game control modules engaging the computing device on at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, said pair of electronic game control modules are separate and distinct structures from the computing device.

14. The combination of claim 13, in which the structural bridge is a rigid structural bridge, the rigid structural bridge comprising a signal pathway, the signal pathway passes signals from each said first and second electronic game control modules.

15. The combination of claim 14, in which the computing device further comprising a back, the back provides an internal surface, an external surface, and upper, lower, left and right sides, collectively the sides of the back of the computing device, the back of the computing device cooperating with the sides of the computing device, and in which the rigid structural bridge cooperates with the back of the computing device.

16. A combination comprising:

a pair of video game control modules, the pair of video game control modules configured for electronic communication with a computing device, the computing device providing an upper, lower, left and right side, collectively the sides of the computing device, and an electronic display screen, the electronic display screen having a corresponding side adjacent each of the sides of the computing device, the pair of video game control modules adapts to at least two opposing sides of the computing device, but not more than three sides of the sides of the computing device, and wherein a video game control module of the pair of video game control modules providing a communication link; and

a structural bridge secured between the pair of video game control modules, the structural bridge includes, but is not limited to, a passageway between the pair of video game control modules, the passageway promotes communication between the communication link and the computing device, and in which the structural bridge provides a first end, a second end, and a void between the first and second ends, the void having right, left, upper, and lower sides, each side of the void communicating with a material of the structural bridge.

17. A combination comprising:

a pair of confinement structures;

a first communication link, the first communication link supported by a first confinement structure of the pair of confinement structures;

a second communication link, the second communication link supported by a second confinement structure of the pair of confinement structures;

a structural bridge interposed between and secured to each the first confinement structure and the second confinement structure, the structural bridge comprising a passageway, the passageway accommodates passage of signals, and in which neither the first nor the second confinement structure of the pair of confinement structures form a structural portion of the structural bridge; and

a pair of electronic game control modules, a first electronic game control module of the pair of electronic game control modules attached to the first confinement structure, and a second electronic game control module of the pair of electronic game control modules attached to the second confinement structure, the first electronic game control module in contact adjacency with the first communication link, the second electronic game control module in contact adjacency with the second communication link, each the first and the second electronic game control modules include at least a plurality of instructional input devices, and in which neither the first nor the second electronic game control module form a structural portion of either the first or second confinement structures.

18. An apparatus comprising:

a computing device, the computing device providing a central processing unit communicating with an electronic display;

an electronic game associated with and responsive to the central processing unit, the electronic game providing a virtual object displayed on the electronic display screen of the computing device; and

means for controlling a movement of the virtual object displayed on the electronic display screen of the computing device.

19. An apparatus comprising:

a first means for attaching an input device to a computing device, said computing device provides a central processing unit and plurality of sides, each of the plurality of sides cooperating with the electronic display screen of said computing device; and

a second means for controlling a movement of a virtual object displayed on said electronic display screen of said computing device, said virtual object provided by an electronic game, said electronic game interacting with said central processing unit, and wherein said second means is accommodated by said input device.

20. The apparatus of claim 18, in which the computing device having a length greater than its width, and wherein the means for controlling a movement of the virtual object displayed on the electronic display screen of the computing device comprising:

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, the at least two opposing sides adjacent the electronic display screen and define end points of the length of the computing device, the pair of confinement structures adapt to and are in pressing contact with said end points of the length of the computing device, each confinement structure of the pair of confinement structures includes at least a communication link, each of the communication links configured for electronic communication with the central processing unit;

a rigid structural bridge disposed between and secured to each of the pair of confinement structures, the rigid structural bridge includes at least a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the central processing unit, the passageway

further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the central processing unit; and

a pair of control modules, each control module of the pair of control modules interacts with and is secured to a corresponding confinement structure of the pair of confinement structures, each control module of the pair of control modules is in electronic communication with the communication link of its corresponding confinement structure, each control module of the pair of control modules provides a plurality of instructional input devices, wherein said plurality of instructional input devices are adjacent each of the at least two opposing sides of the computing device, and wherein each control module of the pair of control modules is a separate and distinct structure from the pair of confinement structures, forming no structural portion of the pair of confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge and wherein each control module of the pair of control modules in conjunction with the central processing unit controls movement of the virtual object displayed on the electronic display screen.

21. The apparatus of claim 18, in which the computing device having a length greater than its width, and wherein the means for controlling a movement of the virtual object displayed on the electronic display screen of the computing device comprising:

an input device in electronic communication with a central processing unit of the computing device, the input device providing a pair of control modules, the pair of control modules adjacent to and confining the computing device on at least two opposing sides of the computing device, the at least two opposing sides adjacent the electronic display screen and define end points of the length of the computing device, the

pair of control modules adapt to and are in pressing contact with said end points of the length of the computing device;

a structural bridge securing the pair of control modules one to the other, the structural bridge configured such that the structural bridge adapts to and is adjacent a back of the computing device, and in which the structural bridge provides a void in the mid-section of the structural bridge, the void having right, left, upper, and lower sides, each side communicating with a material of the structural bridge; and

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit, and wherein the control modules interaction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

22. The apparatus of claim 18, in which the computing device provides a central processing unit and has a length greater than its width, and wherein the means for controlling a movement of the virtual object displayed on the electronic display screen of the computing device comprising:

a first control module of a pair of control modules, and a second control module of the pair of control modules each the first and the second control modules provides a plurality of instructional input devices, at least one of the first and the second control modules further comprising a mechanical latch; and

a structural bridge disposed between said first and second control modules, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second control module, said structural bridge still further comprising a retention member, the retention member interacts with the mechanical latch, the

interaction of the mechanical latch with the retention member restrains the structural bridge to a control module of the pair of control modules, and wherein the plurality of instructional input devices in conjunction with the central processing unit controls movement of the virtual object displayed on the electronic display screen.

23. The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

a pair of confinement structures, the pair of confinement structures interacting with the computing device and adjacent at least two opposing sides of the computing device, the at least two opposing sides adjacent the electronic display screen and define end points of the length of the computing device, the pair of confinement structures adapt to and are in pressing contact with said end points of the length of the computing device, each of the pair of confinement structures comprising a communication link, each of the communication links configured for electronic communication with the central processing unit;

a rigid structural bridge disposed between and secured to the pair of confinement structures, the rigid structural bridge includes at least a passageway between the pair of confinement structures, the passageway promotes electrical communication between the communication link of a first confinement structure of the pair of confinement structures and the computing device, the passageway further promotes electrical communication between the communication link of a second confinement structure of the pair of confinement structures and the computing device; and

wherein the input device is a pair of control modules, each control module of the pair of control modules mechanically interacting with a corresponding confinement structure of the pair of confinement

structures, wherein each control module is a separate and distinct structure from the pair of confinement structures, forming no structural portion of the pair of confinement structures, and in which each of the pair of confinement structures are separate and distinct structures from the structural bridge, forming no structural portion of the structural bridge.

24. The apparatus of claim 23, in which the second means for controlling movement of the virtual object displayed on said electronic display comprising:

each control module of the pair of control modules is in electronic communication with the communication link of its corresponding confinement structure, each of the pair of control modules provides a plurality of instructional input devices, wherein said instructional input devices are adjacent each of the at least two opposing sides of the computing device, and wherein the instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

25. The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

the input device in electronic communication with the central processing unit, the input device providing a pair of control modules, the pair of control modules are adjacent to and confine the computing device on at least two opposing sides of the computing device, the at least two opposing sides adjacent the electronic display screen define end points of the length of the computing device, the pair of control modules each adapt to and are in pressing contact with said opposing end points of the length of the computing device; and

a structural bridge, the structural bridge secures the pair of control modules one to the other, and wherein a first of the pair of control modules comprising a retention mechanism communicating with the structural bridge, and wherein the retention mechanism secures the structural bridge to the first of the pair of control modules, such that the structural bridge accommodates the length of the computing device, and in which the structural bridge provides a void in the mid-section of the structural bridge, the void having right, left, upper, and lower sides, each side communicating with a material of the structural bridge.

26. The apparatus of claim 25, in which the second means for controlling a movement of a virtual object displayed on said electronic display comprising:

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit, each of the pair of control modules provides instructional input devices, wherein said instructional input devices are adjacent each of the at least two opposing sides of the computing device, wherein the instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

27. The apparatus of claim 19, in which the computing device having a length greater than its width, and wherein the first means for attaching the input device to a computing device comprising:

the input device in electronic communication with the central processing unit of the computing device, the input device providing a pair of control modules a first control module of a pair of control modules, and a second control module of the pair of control modules, at least one of the first and the second control modules further comprising a fastening latch;

a structural bridge disposed between said first and second control module, said structural bridge comprising a first side, said first side of said structural bridge in contact adjacency with said first control module, said structural bridge further comprising a second side, said second side of said structural bridge in contact adjacency with said second control module, said structural bridge still further comprising a retention member, the retention member interacts with the fastening latch, the interaction of the fastening latch with the retention member restrains the structural bridge to a control module of the pair of control modules, and the pair of control modules to the computing device.

28. The apparatus of claim 27, in which the second means for controlling a movement of the virtual object displayed on said electronic display comprising:

a communication link, the communication link facilitates communication between the pair of control modules and the central processing unit of the computing device; and

each the first and the second control modules of the pair of control modules comprising a plurality instructional input devices, and wherein the plurality of instructional input devices in conjunction with the central processing unit control movement of the virtual object displayed on the electronic display screen.

29. The apparatus of claim 18, in which the means for controlling the movement of the object displayed on the electronic display screen is provided by an input device, the input device comprises:

input module apertures, each input module aperture accepts either a game control module or a keyboard module as selected by a user, wherein said input module apertures are adjacent each of the at least two opposing sides of the plurality of sides of the computing device; and

a camera communicating with each the input device and the computing device, the camera capturing either still or video images as selected by the user, and in which the camera is responsive to at least the removable keyboard module when said keyboard module is operatively installed by the user within the input module aperture, and in which the removable keyboard module is a pair of touch responsive electronic display screens, each of the touch responsive electronic display screens having at least the functionality of the electronic display screen, includes the functionality of a mouse pad, and presents virtual keys of a keyboard for information entry.

GAME CONTROLLER WITH STRUCTURAL BRIDGE

Related Applications

This application is a continuation of U.S. application Serial No. 15/858,299, filed December 29, 2017, which issues as U.S, Patent No. 10,159,895 on December 25, 2018, which is a continuation of U.S. Patent Application Serial No. 15/663,171 filed July 28, 2017, now U.S. Patent No. 9,855,498 issued on January 2, 2018, which is a continuation of U.S. Patent Application Serial No. 15/457,571 filed March 13, 2017, now U.S. Patent 9,757,649 issued on September 12, 2017, which is a continuation-in-part of U.S. Patent Application Serial No. 14/840,184 filed August 31, 2015, now U.S. Patent 9,592,453 issued on March 14, 2017, which is a continuation-in-part of U.S. Patent Application Serial No. 14/611,804 filed on February 2, 2015, now U.S. Patent 9,126,119 issued on September 8, 2015, which is a continuation-in-part of U.S. Patent Application Serial No. 13/779,987 filed on February 28, 2013, now U.S. Patent 8,529,357 issued on September 10, 2013, which is a continuation-in-part of U.S. Patent application Serial No. 13/681,153 filed on November 19, 2012, now U.S. Patent 8,944,912 issued on February 3, 2015, which is a continuation-in-part of U.S. Patent Application Serial No. 13/494,801 filed on June 12, 2012, now U.S. Patent 9,005,026 issued on April 14, 2015, which in turn claims priority to U.S. Provisional Patent application Serial No. 61/577,709 filed on December 20, 2011.

Summary of the Invention

In a preferred embodiment, a combination includes at least, but is not limited to, a computing device, the computing device providing a plurality of sides, each of the plurality of sides are disposed between an electronic display screen of the computing device and a back of the computing device, an input device interacting with

the computing device, and a communication link. The input device communicates with the computing device and providing a pair of control modules adjacent to and confining the computing device on at least two opposing sides of the computing device. The communication link facilitating communication between the pair of control modules and the computing device. The input device further provides a structural bridge securing the pair of control modules one to the other, and a touch sensitive input module. The touch sensitive module is preferably a touch screen, which relays instructions to the computing device to alter an image displayed on the electronic display. The structural bridge adaptively and snugly accommodates the length of the computing device by way of a retention mechanism of a first of the pair of control modules. The retention mechanism adaptively secures the structural bridge such that the pair of control modules snugly accommodates the length of the computing device.

Brief Description of the Drawings

FIG. 1 is a front perspective view, with partial cutaway, of an embodiment an electronic game control apparatus constructed and operated in accordance with various embodiments disclosed.

FIG. 2 shows a back plan view of the apparatus of FIG. 1.

FIG. 3 displays a right side plan view, with partial cutaway, of the apparatus of FIG. 1, constructed in accordance with various embodiments disclosed and claimed herein.

FIG. 4 depicts a right side plan view of the apparatus of FIG. 1, constructed in accordance with various embodiments disclosed and claimed herein.

FIG. 5 illustrates a top perspective view of an embodiment of an input device of FIG. 1, constructed in accordance with various embodiments disclosed and claimed herein.

FIG. 6 is a block diagram of an embodiment of the apparatus of FIG. 1.

FIG. 7 is a block diagram of an alternate embodiment of the apparatus of FIG. 1.

FIG. 8 displays a front perspective view, with partial cutaway, of a combination electronic game control and information input device constructed and operated in accordance with various embodiments disclosed and claimed herein.

FIG. 9 depicts a back plan view of the combination of FIG. 8.

FIG. 10 illustrates a front perspective view, with partial cutaway, of an alternate embodiment of a combination electronic game control and information input device constructed and operated in accordance with various embodiments disclosed and claimed herein.

FIG. 11 shows a top perspective view of an embodiment of an input device with an integrated point of sale device, the input device is constructed in accordance with various embodiments disclosed and claimed herein.

FIG. 12 displays a front perspective view, with partial cutaway, of an alternate embodiment of a combination electronic game control and information input device, the information input device provides the integrated point of sale device.

FIG. 13 displays a front perspective view, with partial cutaway, of an alternative embodiment of a combination computing device and electronic game control, the electronic game control includes a pair of control modules linked one to the other by a bridge member.

FIG. 14 shows a back plan view of the combination computing device and electronic game control of FIG. 13.

FIG. 15 illustrates a top perspective view of the alternative embodiment of the combination computing device and electronic game control of FIG. 13.

FIG. 16 shows a back plan view of an alternative combination computing device with a communication port secured thereon, and an input device attached to the communication port.

FIG. 17 shows a top plan view of the communication port of FIG. 16.

FIG. 18 shows a side view in elevation of the communication port of FIG. 16.

FIG. 19 shows front and back views in elevation of a first selected confinement structure of the pair of confinement structures of the communication port of FIG. 16.

FIG. 20 shows front and back views in elevation of a second selected confinement structure of the pair of confinement structures of the communication port of FIG. 16.

FIG. 21 shows a bottom plan view of a first control module adjacent to a selected confinement structure of the pair of confinement structures of the communication port of FIG. 16.

FIG. 22 shows a bottom plan view of a first control module secured to a selected confinement structure of the pair of confinement structures of the communication port of FIG. 16.

FIG. 23 shows a side views in elevation of a first control module secured to a selected confinement structure of the pair of confinement structures of the communication port of FIG. 16.

FIG. 24 shows a view in perspective of a fastening mechanism of the communication port of FIG. 16.

FIG. 25 shows a back plan view of the combination computing device and electronic game control of FIG. 16 revealing, in cutout, a data storage device and an auxiliary power source.

FIG. 26 shows a front perspective view, with partial cutaway, of an alternate embodiment of an electronic game control apparatus constructed and operated in accordance with various embodiments disclosed and claimed herein.

FIG. 27 shows an exploded view in perspective of a first control module of an input device of the electronic game control apparatus of FIG. 26.

FIG. 28 shows an exploded view in perspective of a second control module of the input device of the electronic game control apparatus of FIG. 26.

FIG. 29 shows a back perspective view of the electronic game control apparatus of FIG. 26.

FIG. 30 shows a front perspective view of the electronic game control apparatus of FIG. 26, configured to accommodate computing devices of varying size.

FIG. 31 shows a back perspective view of the electronic game control apparatus of FIG. 26, configured to accommodate computing devices of varying size.

FIG. 32 shows a front perspective view of the second control module of the electronic game control apparatus of FIG. 26, with a computing devices of maximum size staged to engage the first control module.

FIG. 33 shows a front perspective view of the second control module of the electronic game control apparatus of FIG. 26, with the computing devices of maximum size commencing engagement with the first control module.

FIG. 34 shows a front perspective view of the second control module of the electronic game control apparatus of FIG. 26, with the computing devices of maximum size fully engaged with the first control module.

FIG. 35 shows a front view of an alternative embodiment of an electronic game control apparatus constructed and operated in accordance with various embodiments disclosed and claimed herein.

FIG. 36 shows a front view of an alternative embodiment of an electronic game control apparatus, and a front perspective view of a computing device, which interfaces with the electronic game control apparatus to form an electronic gaming system.

FIG. 37 shows a front perspective view, with partial cutaway, of the alternative embodiment of then electronic game control apparatus of FIG. 36, constructed and operated in accordance with various embodiments disclosed and claimed herein.

FIG. 38 shows an exploded view in perspective of a control module of the input device of the electronic game control apparatus of FIG. 37.

FIG. 39 shows a front view of the alternative embodiment of the electronic gaming system of FIG. 36, with a keyboard integrated into the control module of FIG. 38.

FIG. 40 shows a front view of the alternative embodiment of the electronic gaming system of FIG. 39, interacting with wirelessly with a display.

FIG. 41 shows a back view of the alternative embodiment of the electronic gaming system of FIG. 37, with a touch sensitive module attached to a back side of the structural bridge of the electronic gaming controller.

FIG. 42 shows a back view of an alternate, alternative embodiment of the electronic gaming system of FIG. 37, with a touch sensitive module attached to a back side of one of the control modules of the electronic gaming controller.

FIG. 43 shows a back view of the alternate, alternative embodiment of the electronic gaming system of FIG. 35, with a touch sensitive module attached to a back side of the structural bridge of the electronic gaming controller.

FIG. 44 shows a back view of an alternate, alternative embodiment of the electronic gaming system of FIG. 35, with a touch sensitive module attached to a back side of the control module of the electronic gaming controller.

Detailed Description

The present disclosure generally relates to a combination game controller and information input device directed to controlling electronic games and entry of information to a computing device, also referred to herein as video games, computer and applications games. The apparatus preferably includes a computing device, an electronic game communicating with the computing device, and an input device for controlling movement of a virtual object provided by the electronic game, and entry of information into the computing device. In a preferred embodiment, the input device includes a pair of opposing side structures adjacent opposing sides of plurality of sides

of the computing device. The input device further preferably includes a plurality of input switches, wherein said input switches are adjacent each of the at least two opposing sides of the plurality of sides of the computing device, and a bridge structure disposed between the pair of sides to form a three sided structure. The third structure mitigates inadvertent removal of the computing device from the three sided structure when the computing device is fully nested within the three sided structure.

Turning to the drawings, FIG. 1 provides an exemplary game controller and information entry device ("G&D") 100 capable of being used in accordance with various embodiments of the present invention. The exemplary G&D 100 has at least a computing device 102 (also referred to herein as a computing device 102), which provides a plurality of sides, such as 104, 106, 108, and 126. Each of the plurality of sides 104, 106, and 108 are disposed between an electronic display screen 110, of the computing device 102, and a back 112 (shown by FIG. 2) of the computing device 102 operates. The G&D 100 further preferably includes an input device 114. The computing device 102 may take the form of a tablet computer, smart phone, notebook computer, or other portable computing device,

In a preferred embodiment, the input device 114 provides a pair of side structures, 116 and 118, with a bridge structure 115 disposed there between. One of the pair of side structures, for example 116, is adjacent to and confines the computing device 102 on a first side, such as 104 of the plurality of sides 104, 106, 108, and 126 of the computing device 102. The second side structure of the pair of side structures, such as 118, is adjacent to and confines the computing device 102 on a second side, such as 108, of the plurality of sides 104, 106, 108, and 126 of the computing device 102, wherein the first and second sides, such as 104 and 108, of the plurality of sides 104, 106, 108, and 126 of the computing device 102 are opposing sides of the plurality of sides 104, 106, 108, and 126, of the computing device 102.

In a preferred embodiment, the input device 114 further provides a plurality of removable game control modules 120 and 122, wherein the removable game control modules 120 and 122 are adjacent each of the at least two opposing sides 104 and 108, of the plurality of sides 104, 106, 108, and 126, of the computing device 102, and a

bridge structure 124, disposed between the pair of side structures 116 and 118, and adjacent the third side 126, of the plurality of sides 104, 106, 108, and 126, of the computing device 102.

In a preferred embodiment, the removable game control modules 120 and 122 may be removed from the input device 114, and replaced by removable keyboard modules 164 and 166, of FIG. 8. To facilitate the exchange of modules, the input device preferably provides a pair of input module apertures 170. The removable keyboard modules collectively form a full function keyboard and each provide an auxiliary electronic display screen ("ADS") 168, each ADS 168 having at least the functionality of the electronic display screen 110.

In an alternate embodiment, shown by FIG. 10, the removable keyboard modules 164 and 166 are a pair of touch responsive electronic display screens 172 and 174, each of the touch responsive electronic display screens having at least the functionality of the electronic display screen 110, include the functionality of a mouse pad portions 176 and 178, and selectively presents keys of a keyboard 180 and 182 for information entry. Preferably, the keys are virtual keys that respond to a touch by a user.

Returning to FIG. 1, preferably, the bridge structure 124 in combination with the pair of side structures 116 and 118 form a three sided structure 128 (of FIG. 5) (also referred to herein as a u-shaped structure 128 of the input device 114), in which the computing device 102 nests, such that the computing device 102 is confined by the u-shaped structure 128, and the u-shaped structure 128 mitigates inadvertent removal of the computing device 102 from the u-shaped structure 128 when the computing device 102 is fully nested within the three sided structure 128.

The G&D 100 of FIG. 1, further preferably includes a video game 130. Preferably, the video game 130 provides a virtual object 132 displayed by the electronic display screen 110, the virtual object 132 is responsive to input from the input device 114. An example of a response of the virtual object 132 would be movement of the virtual object 132, or the loading of an alternate computer game, based on a predetermined signal provided by the input device 114, or an appearance of

a character. It is noted that FIG. 1 displays the housings of the plurality of switches, whereas at least some of the plurality of switches are shown in the partial cutaway of FIG. 3.

FIG. 2 depicts and reveals the back 112 of the computing device 102. Further shown by FIG. 2, is the input device 114, which provides a pair of trigger switches 136 and 138, supported by their corresponding side structures 116 and 118 respectively.

FIG. 3 shows that a predetermined number of the plurality of switches 140, collaborate with each other to form an input apparatus 142, the input apparatus 142 controls display of virtual objects displayed on the electronic display screen 110 of the computing device 102. Preferably, the input apparatus 142 is a joystick 142. FIG. 3 further shows that the input device 114 provides a plurality of buttons 144 and 119 of the removable game control modules 120, which activate corresponding switches 145 and 121. The main function of the trigger 138, the joystick 142, and the buttons 144 and 119 of the removable game control modules 120 is to govern the movement/actions of a playable body/object or otherwise influence events in a video game 130 (of FIG. 1) or an alternate computer game.

FIG. 4 shows the G&D 100, further includes a second joystick 146, and a second button 148, which are provided on the side structure 116, adjacent the trigger 136. While FIG. 5 shows the central processing unit (CPU) 150, of the input device 114.

FIG. 6 shows the input device 114 includes the CPU 150, interacting with the plurality of switches 152, which preferably include at least switches 119 of the removable game control modules 120 (of FIG. 1), switches 117 of the removable game control modules 122 (of FIG.1), 136, 138, 142, 144, 146, and 148 (of FIGS. 2 and 3). FIG. 6 further shows the input device 114 includes a communications protocol 154 providing the communication link between the computing device 102, and the input device 114. In a preferred embodiment, a Universal Serial Bus (USB) communications protocol is utilized. However, as those skilled in the art will recognize, the communications protocol 154 is not limited to a USB protocol.

FIG. 6 further shows that the computing device 102 preferably includes at least a CPU 156, interacting with the electronic display screen 110, the video game 130, a device driver 158, which facilitates the interaction between the computing device 102 and the input device 114, and a communications protocol 160 providing the communication link between the computing device 102, and the input device 114. In a preferred embodiment, a Universal Serial Bus (USB) communications protocol is utilized. However, as those skilled in the art will recognize, the communications protocol 160 is not limited to a USB protocol.

FIG. 7 shows an alternative embodiment of an exemplary game controller 162, in which the device driver 158 and the video game 130 are located in the input device 114.

FIG. 8 shows in a preferred embodiment, the G&D 100 includes a first camera 184, on a first side of the computing device 102, a second camera 186, on the back side of the computing device 102 (shown by FIG. 9), a third camera 188 on a first side of the input device 114, and a fourth camera 190 on the back side of the input device 114 (shown by FIG. 9).

In a preferred embodiment, each of the four cameras may selectively function independently, or may be used in conjunction with one another, and each of the four cameras 184, 186, 188, and 190 are fully functional in capturing still and video images. Additionally, and preferably, the first and second cameras 184 and 186 are fully operative, even when the computing device 102 is detached from the input device 114, while the third and fourth cameras 188 and 190 are fully functional, even when the input device 114 is detached from the computing device 102.

In a preferred embodiment, when the computing device 102 is nested in the input device 114, the first and second cameras, 184 and 186, are responsive, either independently or simultaneously, to input from either the computing device 102, or the input device 114, depending on which device is selected for control of the first and second cameras, 184 and 186. Further, in the preferred embodiment, each the computing device 102 and the input device 114, are configured with a Bluetooth protocol stack communication feature, which permits the user to operate the first and

second cameras, 184 and 186, of the computing device 102 with the input device 114, even when the computing device 102 is detached from the input device 114. Likewise, when the computing device 102 and the input device 114 are configured with a Bluetooth protocol stack communication feature, the user may operate the third and fourth cameras, 188 and 190, of the input device 114, using the computing device 102. In other words, in the preferred embodiment, each of the four cameras 184, 186, 188, and 190, may be selectively operated, individually or collectively, whether or not the computing device 102 is nested within the input device 114.

FIG. 9 shows that in a preferred embodiment, the input device 114 includes an auxiliary power source 192, and an auxiliary data storage device 194, which preferably includes a cache portion 196. Preferably, the auxiliary power source 192 is a lithium ion battery, which provides power to the input device 114, and the computing device 102, when the power source of the computing device 102 is depilated; and the auxiliary data storage device 194 is a solid state hard drive.

In the preferred embodiment, the cache 196 is sized to buffer synchronized input from each of the cameras 184, 186, 188, and 190, such that the auxiliary data storage device 194 may store and retrieve images, still or video, for display seamlessly, including a simultaneous output of video images recorded by each of the cameras 184, 186, 188, and 190.

In a non-limiting exemplary application of utilizing the cameras 184, 186, 188, and 190, the first camera 184 could be trained on an information presenter, while the second camera 186 is trained on a portion of an audience attending the presentation. The third camera 188 could be trained on a screen used by the presenter for presenting their information to the audience, while the fourth camera is trained on an alternate portion of the audience. By simultaneously replaying the recorded presentation, a response of the audience to the information, and sequence of information being presented, may be analyzed for fostering improvements to the presentation.

FIG. 11 shows an alternative embodiment of a video game controller 200, which provides an integrated transaction card input feature 202. Preferably, the integrated transaction card input feature 202, includes a transaction card slot 204, and

a transaction card reader 206. In a preferred embodiment, the transaction card reader 206 is a magnetic strip reader, but as those skilled in the art will recognize, the transaction card reader can be, in the alternate: is an optical character recognition reader; a barcode reader; an object recognition reader, or a pattern recognition reader.

FIG. 12 shows that in a preferred embodiment, a combination computing device and electronic game controller with an integrated point of sale device 210 preferably includes a computing device 212, having a plurality of sides 214, each of the plurality of sides 214, are disposed between an electronic display screen 216, of the computing device and a back 218 of the computing device, and an input device 220, in electronic communication with the computing device 212. The input device 220 preferably provides side structures 222, adjacent to and confining the computing device on at least two opposing sides of the plurality of sides 214 of the computing device 212. The input device 220, further preferably provides input module apertures 224, each input module aperture 224, selectively accepts either a game control module, such as 102 and 122 of FIG. 1, or a removable keyboard module, such as 226 and 228. Preferably, the input module apertures 224 are adjacent each of the at least two opposing sides of the plurality of sides 214 of the computing device 212.

FIG. 12 further shows that in a preferred embodiment, the combination computing device and electronic game controller with an integrated point of sale device 210 preferably includes a camera 230, communicating with each the input device 220, and the computing device 212. The camera 230, selectively captures either still or video images, and that the input device 220, further provides an integrated transaction card input feature 232, which interacts with a transaction card 234, and that preferably, the input device is an electronic game controller 220. Preferably, the camera 230 is a first camera, having a lens facing the user while the user is facing the electronic display screen 216, and includes at least a second camera, such as 186 or 190 (of FIG. 9), having a lens facing in a direction opposite that of the first camera 184.

FIG. 12 additionally shows an application 236, displayed on the electronic display screen 216, of the computing device 212. Preferably, the application 236,

displayed on the electronic display screen 216 of the computing device 212, is a point of sale transactional computer application, which interacts with the electronic game controller 220 and the computing device 212.

FIG. 13 shows an alternative embodiment of a combination computing device and electronic game control 240 (also referred to herein as a device 240). The computing device 242, preferably provides a plurality of sides 244, each of the plurality of sides are disposed between an electronic display screen 246, of the computing device 242, and a back 248 of the computing device 242.

Preferably, the electronic game controller 250 (also referred to herein as input device 250), is in electronic communication with the computing device 242. Preferably, the input device 250 provides a pair of control modules 252. The pair of control modules 252, are adjacent to and confining the computing device 242, on at least two opposing sides of the plurality of sides 244, of the computing device 242. The pair of control modules 252 preferably provide input module apertures 254, each input module aperture 254, secures an instructional input device 256. Preferably, the input module apertures 254 are adjacent each of the at least two opposing sides of the plurality of sides 244, of the computing device 242.

FIG. 14 shows the back 248, of the computing device 242, and the computing device 242, partially positioned within the input device 250. FIG. 14 further shows a structural bridge 258, securing the pair of control modules 252, one to the other, and communicating with the back 248, of the computing device 242, at a mid-region 260, of the back 248, of the computing device 242.

FIG. 14 further shows that the pair of control modules 252 provide a confinement boss 262, and the confinement boss 262 provides a fastening detent 264. The fastening detent 264 interacts with a retention member 266, to secure the structural bridge 258, to the pair of control modules 252. In a preferred embodiment, the retention member 266 is responsive to a catch 268, which preferably is a spring activated catch 268, and the retention member 268 is preferably a spring loaded retention member 268. Stil8l further, FIG. 14 shows that in a preferred embodiment,

the structural bridge 258 provides a communication link 270, which passing signals between the pair of control modules 252.

Continuing with FIG. 14, in a preferred embodiment, the communication link 270, provides a communication module 272, and in the alternative, provides a signal pathway 274, for use in passing signals between the pair of control modules 252. In a preferred embodiment, the communication module 272 is a wireless communication module 272, which operates in a frequency range of 2.4 GHz. In an alternate preferred embodiment, the wireless communication module 272 is a personal area network. As those skilled in the art, a personal area network (PAN) is a computer network used for communication among computerized devices, including telephones and personal digital assistants. PANs can be used for communication among the personal devices themselves (intrapersonal communication), or for connecting to a higher level network and the Internet (an uplink). A wireless personal area network (WPAN) is a PAN carried over wireless network technologies such as IrDA, Bluetooth, Wireless USB, Z-Wave, ZigBee, or even Body Area Network. The reach of a WPAN varies from a few centimeters to a few meters. A PAN may also be carried over wired computer buses such as USB and FireWire.

In an embodiment that utilizes the signal pathway 274, as the communication link, the signal pathway 274 may be in the form of a metallic conductor, a fiber optic conductor, a conductive polymer, or the conductive layer of a flex circuit. The skilled artisan will further appreciate that the structural bridge 258 (of FIG. 14), or 276 (of FIG. 15) may be either formed from a ridged material, such as a ridged polymer, or from a flexible material, such as a flexible polymer. In a preferred embodiment, when a flexible material is selected, and the signal pathway 274 is a wired pathway, the signal pathway 274 may be coupled externally to the structural bridge 276, as shown by FIG. 15.

FIG. 15 further shows that in a preferred embodiment, the instructional input device 256, may be an electronic game control module 278 (which may be either removable, or fixed), or a keyboard module 280 (of FIG. 13, which may be either removable, or fixed).

FIG. 16 shows a back plan view of an alternative combination 300, which preferably includes, but is not limited to, a computing device 302 that provides a plurality of sides 304, each of the plurality of sides are disposed between an electronic display screen 306 (of FIG 13) of the computing device and a back 308 of the computing device 302. Preferably, the alternative combination 300 further includes a communication port 310, interacting with the computing device 302. In a preferred embodiment, the communication port 310 provides a communication link 312 (which for purposes of illustration is shown as a wired connection 314, but will be understood to be a wireless connection in an alternative embodiment). Preferably, the communication port 310 further provides a pair of confinement structures 316, the pair of confinement structures 316, which are preferably adjacent to and confining the computing device 302 on at least two opposing sides of the plurality of sides 304 of the computing device 302.

The alternative combination 300, further preferably includes an input device 318 (also referred to herein as input device 114), attached to and in electronic communication with the communication port 310. The input device 318 providing a pair of control modules 252, the pair of control modules 252 providing input module apertures 224 (of FIG. 12), each input module aperture 224 secures an instructional input device 356 (of FIG. 23), or such as 120 of FIG. 11, or 256 of FIG. 13. Preferably, the input module apertures 224, are adjacent each of the at least two opposing sides of the plurality of sides 304, of the computing device 302, and wherein the input device 356, or such as 120 of FIG. 11, or 256 of FIG. 13, is a separate and distinct structure from the communication port 310, forming no structural portion of the communication port 310.

FIG. 16 further shows that in a preferred embodiment, the communication port 310 further includes a fastening mechanism 320. In one embodiment, a soft draw latch, such as that provided by Southco, of 210 N. Brinton Lake Road Concordville, PA 19331, have been shown to be a useful fastening mechanism 320.

FIG. 17 shows a top view of the communication port 310 that preferably includes a structural bridge 322, securing the pair of confinement structures 316, one

to the other. The structural bridge 322 is preferably secured to a select confinement structure of the pair of confinement structures 316 by way of a solid connection 324, and to remaining confinement structure of the pair of confinement structures 316 by way of a slip fit 326. The fastening mechanism 320, is preferably securely fastened to to a conduit 328, of the structural bridge 322, by way of a anchor member 330, the anchor member 330 is preferably positioned in a location adjacent the slip fit 326, and by way of an attachment member 332 (shown in FIG. 18), securely attached to the remaining confinement structure of the pair of confinement structures 316. The attachment member 332 is preferably positioned in a location adjacent the slip fit 326. Operation of the fastening mechanism 320 facilitates an expand and contract of the distance between the pair of confinement structures 316. The expansion and contraction of the distance between the pair of confinement structures 316, facilitates placement of the computing device 302 between the pair of confinement structures 316, the application of sufficient compressive load being placed on the computing device 302 to securely hold the computing device between the pair of confinement structures 316, and an ability to remove the compressive load and allow removal of the computing device from the communication port 310.

FIG. 17 further shows that each of the pair of confinement structures 316, provide a pair of controller docking pins 334, while FIG. 18 shows that each of the pair of confinement structures 316 further provide a computing device cradle 336, and that a select confinement structure of the pair of confinement structures 316 provides a computing device interface feature 338. The interface feature 338, facilitates at least, but not limited to, the provision of power to the computing device 302.

FIG. 19 shows a front view 340, of a first selected confinement structure of the pair of confinement structures 316, which reveals a plurality of signal input lands 342 for use in receiving signals from the input device 318, of FIG. 16, and the pair of controller docking pins 334.

Further shown by FIG. 19, is a back view 344 of the first selected confinement structure of the pair of confinement structures 316, which reveals computing device interface feature 338, the computing device cradle 336, and the slip fit 326.

FIG. 20 shows a front view 346, of a second selected confinement structure of the pair of confinement structures 316, which reveals a plurality of signal input lands 342 for use in receiving signals from the input device 318, of FIG. 16, and the pair of controller docking pins 334.

Further shown by FIG. 20, is a back view 348 of the second selected confinement structure of the pair of confinement structures 316, which reveals, the computing device cradle 336, and the solid connection 324.

FIG. 21 reveals, for purposes of disclosure and for consistency of views with remaining disclosed figures of an embodiment, a bottom right hand plan view of the input device 318 adjacent the second selected confinement structure of the pair of confinement structures 316, of the communication port 310. Preferably, the control module 252, provides an attachment structure 350, cooperating with the controller docking pins 334, of the communication port 310. The attachment structure 350, secures the input device 318, to the communication port 310. In a preferred embodiment, the attachment structure 350 provides a sliding locking toggle 352, and a fixed locking toggle 354. In the embodiment presented, the sliding locking toggles, 352, interact with the controller docking pins 334, to securely (but removable) fasten the input device 318 to the communication port 310. In a preferred embodiment, the sliding locking toggle 352 is selectively adjustable from an open position, shown in dashed lines, and a closed, or locked position, as shown in solid lines.

FIG. 22 shows the input device 318, securely fastened to the communication port 310, by way of the attachment structure 350, while FIG. 23 shows the right control module 252, of the input device 318, with its accompanying attachment structure 350 in a locked position, and the special relationship of the control module 252, relative to the confinement structure 316. FIG. 23 further shows an instructional input device 356, such as 120 of FIG. 11, or 256 of FIG. 13, which in a preferred embodiment is a removable instructional input device 356.

FIG. 24 provides a more insightful presentation of a latch portion 358, of the fastening mechanism 320, relative to the attachment member 332, of the fastening mechanism 320.

FIG. 25 shows that in a preferred embodiment, the input device 318, includes an auxiliary power source 360, and an auxiliary data storage device 362, which preferably includes a cache portion 364.

FIG. 26 shows a front perspective view, with partial cutaway, of an alternate embodiment an electronic game control apparatus 400 (also referred to herein as an input device 400), constructed and operated in accordance with various embodiments disclosed and claimed herein. The input device 400 includes, but is not limited to, a first control module 402, and a second control module 404. The control modules (402, 404) are adjacent to and confine a computing device 406 (of FIG. 30) on at least two opposing sides 408 and 410 (each of FIG. 30), of the plurality of sides of the computing device 406.

In a preferred embodiment, the computing device 406 has a length 412, greater than its width 414, as shown by FIG. 30. The pair of control modules (408, 410) are preferably configured such that the pair of control modules (408, 410) adaptively and snugly accommodate the width 414, of the computing device 406. Alternatively the pair of control modules (408,410) adaptively and snugly accommodate a width 416 (of FIG. 30), of a second computing device 418 (of FIG. 30). Preferably, the width 416, of the second computing device 418, is greater than the width 414, of the computing device 406, and preferably, the second computing device 418, has a length 420 (of FIG. 30) greater than the width 414, of the second computing device 418.

Preferably, the input device further provides a structural bridge 422, which secures the pair of control modules (402, 404), one to the other. The structural bridge 422 is preferably configured such that the structural bridge 422, adaptively and snugly accommodate the length 412, of the computing device 406. Alternatively, the structural bridge 422, adaptively and snugly accommodate the length 420, of the second computing device 418. Preferably, the length 420 of the second computing device 418 is greater than the length 412, of the computing device 406. Without limitations imposed upon the accompanying claims, in a preferred embodiment, the structural bridge 422, is formed from a flexible material, such as a flexible polymer, or alternatively, from a semi-ridge material, such as a semi-ridged polymer, fiber glass,

metallic sheet material, carbon fiber, or other materials known to artisans skilled in the art.

FIG. 27 shows an exploded view in perspective of the first control module 402, of the input device 400, of FIG. 26. The first control module 402, of the pair of control modules (402, 404), preferably includes at least, but is not limited to, a retention mechanism 424, communicating with the structural bridge 422 (of FIG. 26), wherein the retention mechanism 424, secures the structural bridge 422 such that the structural bridge 422, adaptively accommodates the length of the computing device 406. Alternatively, the structural bridge 422 adaptively accommodates the length 420, of the second computing device 418. In a preferred embodiment, the length 420 of the second computing device 418 is greater than the length 412, of the computing device 406.

FIG. 27 further shows that the first control module 402 provides a base 426, which provides an adjustment feature 428. And preferably, the retention mechanism includes at least, but is not limited to, a boss 430, communicating with the structural bridge 422, and an adjustment structure 432, interacting with the boss 430, by way of the adjustment feature 428. In a preferred embodiment, the base 426 is disposed between the adjustment structure 432, and the boss 424.

The first control module 402, preferably provides a restraint 434, cooperating with the boss 430. As shown by FIG. 29, the restraint 434, retains the structural bridge 422, in a first position 436, relative to the base 426, when the adjustment structure 432, is activated in a first direction 438, relative to the base 426. When positioned in the first position 436, the structural bridge 422, accommodates the second computing device 418, as more clearly shown in FIG. 30.

The adjustment structure 432, further retains the structural bridge 422, in a second position 440, relative to the base 426, when the adjustment structure 432, is activated in a second direction 442, relative to the base 426. When positioned in the second position 440, the structural bridge 422, accommodates the first computing device 406, as shown by FIG. 30. To accommodate the first position 436, and the second position 440, preferably the boss 432 provides a constraint feature 444, which

cooperates with the base 426. The constraint feature 444, maintains the structural bridge 422, in the first position 436, relative to the base 426, following an activation of the adjustment structure 432, in the first direction 438. The constraint feature 444, further maintains the structural bridge 422, in the second position 440, relative to the base 426, following an activation of the adjustment structure 432, in the second direction 442. The second direction 442 is a direction opposite that of the first direction 438, and in the preferred embodiment, the restraint 434, is a spring member.

FIG. 28 shows an exploded view in perspective of the second control module 404, of the input device 400, of FIG. 26. The second control module 404, includes at least but is not limited to, a tensioning mechanism 446, communicating with the structural bridge 422, by way of a fastening mechanism 448 (also referred to herein as an attachment stay 448), of the tensioning mechanism 446 secured to the structural bridge 422, as shown by FIG.26.

The tensioning mechanism 446, secures the structural bridge 422, to a bottom cover 450, of the second control module 404, such that the structural bridge 422, cooperating with the tensioning mechanism 446, snugly accommodates the length 412 (of FIG. 30), of the computing device 406 (of FIG. 30). Alternatively, the tensioning mechanism 446, secures the structural bridge 422 to the bottom cover 450, of the second control module 404, such that the structural bridge 422, cooperating with the tensioning mechanism 446, snugly accommodates the length 420 (of FIG. 30) of the second computing device 418 (of FIG. 30). In a preferred embodiment, the length 420, of the second computing device 418, is greater than the length 412, of the computing device 406.

In a preferred embodiment, the bottom cover 450, provides a position guide 454, and the tensioning mechanism 446, includes at least, but not limited to, the attachment boss 452, communicating with the structural bridge 422, an attachment support 456, cooperating with the attachment boss 452. Preferably, the attachment support 456, in cooperation with the attachment boss 452, confines the structural bridge 422 vertically, but permits lateral movement of the structural bridge 422 relative to the bottom cover 450.

Preferably, the structural bridge 422, is disposed between the bottom cover 450, and a top cover 458, which cooperates with the bottom cover 450, to facilitate lateral movement of a portion of the structural bridge 422, from its position associated with the first position 432 (of FIG. 29) of the the adjustment structure 432 (of FIG. 29), to its position associated with the second position 440 (of FIG. 29) of the adjustment structure 432, while a biasing structure 460, communicating with the attachment stay 448 (of FIG. 26), provides variable tension between the structural bridge 422, and the second control module 404, thereby accommodating a predetermined amount of lateral movement of the structural bridge 422, relative to the bottom cover 450, as shown by FIG. 26.

In a preferred embodiment, the attachment stay 448, includes at least, but not limited to, a guide aperture 462, which is preferably slotted, interacting with a position guide 454, of the attachment boss 452. The interaction of the guide aperture 462, with the position guide 454, limits the extent of lateral alignment between the structural bridge 422, and the second control module 404. As further shown by FIG. 28, in a preferred embodiment, the attachment support 456, further supports a plurality of control switches 464, interacting with a circuit structure 466, which preferably is a flex circuit 466, the biasing structure 460, is a coiled spring 460.

Preferably, each of the pair of control modules 402 of FIG. 27 and 404 of FIG. 28, include at least, but not limited to, a sizing mechanism 468, communicating with a computing device 406 (of FIG. 30), else a second computing device 418 (of FIG. 30). In a preferred embodiment, the sizing mechanism 468 is configured such that the sizing mechanism 468 adaptively accommodate the width 414, of the computing device 406. Alternatively the sizing mechanism 468, adaptively accommodate the width 416, of the second computing device 418. In a preferred embodiment, the width 416, of the second computing device 418, is greater than the width 414, of the computing device 406.

As shown by FIG. 27, the control module 402 includes the base 426, which provides a sizing toggle confinement structure 470, and a slide support confinement structure 472. Preferably, the sizing mechanism 468 includes at least, but is not

limited to, a sizing toggle 474, communicating with the sizing toggle confinement structure 472, a sizing toggle restraint 476, interacting with the sizing toggle confinement structure 472, the sizing restraint 476, promotes rotation of the sizing toggle 474, relative to the base 426.

In a preferred embodiment, the sizing mechanism further includes a torsional force structure 478, cooperating with the base 426, and acting on the sizing toggle 474. The torsional force structure 478, facilitating the sizing toggle 474, in a first position under a first torsional force. When in the first position, the sizing toggles 474 extend vertically from the base 450, and the control module 402 is configured to accommodate the width 410, of the computing device 406. Alternatively, the torsional force structure 478, facilitating the sizing toggle 474, in a second position under a second torsional force. When in the second position, the sizing toggles 474, lies nested in the sizing toggle confinement structure 472, and horizontal the base 450, and the control module 402 is configured to accommodate the width 416, of the second computing device 418. Preferably, the second torsional force is greater than the first torsional force, and the width 416, of the second computing device 418, is greater than the width 414, of the computing device 406.

In a preferred embodiment, the control module 402 further provides a computing device slide pad 480, nested in the slide support confinement structure 472. The computing device slide pad 480 is configured to deliver minimal sliding friction between the computing device 406, or the second computing device 418, and the control module 402, when inserting either computing device (406, 418) into the control module 402. Likewise, the sizing toggle 474 is configured to deliver minimal sliding friction between the computing device 406, or the second computing device 418, and the control module 402, when inserting either computing device (406, 418) into the control module 402.

Preferably, the torsional force structure 478, is a coiled spring, and the sizing toggle confinement structure 470, provides a friction surface 482, which mitigates an inadvertent movement of the sizing toggle 474, from the first position to the second position when the computing device 406, is constrained by the input device 400.

Turning to FIG. 31, shown therein are FIGS. 31a and 31b. As can be seen by FIG. 31a, the control modules (402, 404), and the structural bridge 422, of input device 400, are positioned, relative to one another, to accommodate the computing device 406 (of FIG. 30). While as can be seen by FIG. 31b, the control modules (402, 404), and the structural bridge 422, of input device 400, are positioned, relative to one another, to accommodate the second computing device 418, of FIG. 30.

FIGS. 32, 33, and 34 collectively illustrate a preferred procedure to join the second computing device 418, with the control module 404. The first step in the procedure is to align the second computing device 418, with the control module 404, such that the corner of the second computing device 418, is adjacent the sizing toggle 474 as shown by FIG. 32. The next step in the procedure is to advance the second computing device 418, into contact with the sizing toggle 474, and continue to advance the second computing device 418, into the control module 404, which causes the sizing toggle 474, to rotate into the sizing toggle confinement structure 470, thereby permitting the second computing device 418 to be adaptively and snuggly accommodated by the control module 404.

FIG. 35 shows a front view of an alternate embodiment of an electronic game control apparatus 500 (also referred to herein as an input device 500), constructed and operated in accordance with various embodiments disclosed and claimed herein. The input device 500 includes, but is not limited to, a first control module 502, and a second control module 504. The control modules (502, 504) are adjacent to and confine a computing device 506 (of FIG. 36) on at least two opposing sides 508 and 510 (each of FIG. 36), of the plurality of sides of the computing device 506. Collectively, and when joined together, by way of a structural bridge 522, the input device 500, and the computing device 506, form an electronic gaming system 511, as shown in FIG. 36.

In a preferred embodiment, the control module 504, incorporates the eternal mechanisms and features of the control module 404, of FIGS. 26 and 28, including the tensioning mechanism 446, but absent the sizing mechanism 468. While the control module 502, incorporates the eternal mechanisms and features of the control module

402, of FIGS. 26 and 27, but absent the adjustment feature 428, and the sizing mechanism 468. Accordingly, the input device 500 can accommodate computing devices of varying length and width by incorporating the tensioning mechanism 446, into control module 504, to accommodate a length 513, of the computing device 560, and configuring the control modules (502, 504) to allow the sides (508, 510) of the computing device 506, to protrude, or extend beyond the confines of a length 515, of the control modules (502, 504), in a vertical direction along a width 517, of the computing device 506.

In a preferred embodiment, as shown by FIG. 35, the structural bridge 522, secures the pair of control modules (502, 504) one to the other. Preferably, the structural bridge 522, is configured such that the structural bridge 522, adaptively and snugly accommodate the length 513, of the computing device 506, as shown in FIG. 36.

In a preferred embodiment, as shown by FIG. 37, the control module 504, includes at least, but is not limited to, a tensioning mechanism 546, communicating with the structural bridge 522. Preferably, the tensioning mechanism 546, secures the structural bridge 522, such that the structural bridge snugly accommodate the length 513 (of FIG. 36), of the computing device 506 (of FIG. 36).

In a preferred embodiment, as shown by FIG. 35, a communication link 519, is provided by the input device 500, which facilitating communication between the pair of control modules (502, 504) and the computing device 506 (of FIG. 36), and, as shown by FIG. 35, the structural bridge 522, masks a mid-portion of the back of the computing device.

Continuing with FIG. 35, in a preferred embodiment, the communication link 519, provides a communication module 521, and in the alternative, provides a signal pathway 523, for use in passing signals between the pair of control modules (502, 504). In a preferred embodiment, the communication module 521, is a wireless communication module 521, which operates in a frequency range of 2.4 GHz. In an alternate preferred embodiment, the wireless communication module 521, is a personal area network. As those skilled in the art, a personal area network (PAN) is a

computer network used for communication among computerized devices, including telephones and personal digital assistants. PANs can be used for communication among the personal devices themselves (intrapersonal communication), or for connecting to a higher level network and the Internet (an uplink). A wireless personal area network (WPAN) is a PAN carried over wireless network technologies such as IrDA, Bluetooth, Wireless USB, Z-Wave, ZigBee, or even Body Area Network. The reach of a WPAN varies from a few centimeters to a few meters. A PAN may also be carried over wired computer buses such as USB and FireWire.

In an embodiment that utilizes the signal pathway 523, as the communication link 519, the signal pathway 523, may be in the form of a metallic conductor, a fiber optic conductor, a conductive polymer, or the conductive layer of a flex circuit. The skilled artisan will further appreciate that the structural bridge 522, may be either formed from a ridged material, such as a ridged polymer, or from a flexible material, such as a flexible polymer.

FIG. 38 shows an exploded view in perspective of the control module 504, of the input device 500, of FIG. 35. The control module 504, includes at least but is not limited to, a tensioning mechanism 546, communicating with the structural bridge 522, by way of a fastening mechanism 548 (also referred to herein as an attachment stay 548), of the tensioning mechanism 546 secured to the structural bridge 522, as shown by FIG.37.

The tensioning mechanism 546, secures the structural bridge 522, to a bottom cover 550, of the control module 504, such that the structural bridge 522, cooperating with the tensioning mechanism 546, snugly accommodates the length 513 (of FIG. 36), of the computing device 506 (of FIG. 36).

In a preferred embodiment, the bottom cover 550, provides an attachment boss 552, supporting a position guide 554, and the tensioning mechanism 546, includes at least, but not limited to, the attachment boss 552, communicating with the structural bridge 522, an attachment support 556, cooperating with the attachment boss 552. Preferably, the attachment support 556, in cooperation with the attachment boss 552,

confines the structural bridge 522 vertically, but permits lateral movement of the structural bridge 522, relative to the bottom cover 550.

Preferably, the structural bridge 522, is disposed between the bottom cover 550, and a top cover 558, which cooperates with the bottom cover 450, to facilitate lateral movement of a portion of the structural bridge 522. Preferably, a biasing structure 560, communicating the attachment stay 548 (of FIG. 37), provides variable tension between the structural bridge 522, and the second control module 504, thereby accommodating a predetermined amount of lateral movement of the structural bridge 522, relative to the bottom cover 550, as shown by FIG. 37.

As shown by FIG. 37, in a preferred embodiment, the attachment stay 548, includes at least, but not limited to, a guide aperture 562, which is preferably slotted, interacting with the position guide 554, of the attachment boss 552 (of FIG. 38). The interaction of the guide aperture 562, with the position guide 554, limits the extent of lateral alignment between the structural bridge 522, and the control modules (502, 504). As further shown by FIG. 38, in a preferred embodiment, the attachment support 556, further supports a plurality of control switches 564, interacting with a circuit structure 566, which preferably is a flex circuit 566, and the biasing structure 560, is preferably a coiled spring 460.

In a preferred embodiment, the structural bridge 522, provides a width 525, less than its length 527, as shown by FIG. 37, and the back of the computing device 506, extending above and below the width 525, of the structural bridge 522.

Returning to FIG. 36, in a preferred embodiment, the input device 500, includes an auxiliary power source 529, and an auxiliary data storage device 531, which preferably includes a cache portion 533. Preferably, the auxiliary power source 529, is a lithium ion battery, which provides power to the input device 500, and the computing device 506, when the power source of the computing device 506 is depilated; and the auxiliary data storage device 531 is preferably a solid state hard drive.

FIG. 39 shows a further embodiment of the electronic gaming system 511, in which the input device 500, provides a keyboard module 535, and in which the

keyboard module 535, passes signals to the computing device 506, the signals control images displayed on the display screen 537, of the computing device 506.

FIG. 40 shows a still further embodiment of the electronic gaming system 511, in which the input device 500, provides the keyboard module 535, and in which the keyboard module 535, passes signals to the computing device 506, the signals control images displayed on the display screen 537, of the computing device 506. FIG. 40 further shows that the communication link 519, via the communication module 521, is further configured to communicate with a second display 541 wirelessly. That is the second display 541, is remote from and mechanically disassociated from the electronic display screen 537, of the computing device 506.

Continuing with FIG. 40, preferably each control module (502, 504) provides a directional control device 543. In a preferred embodiment, each direction control device 543, is configured to facilitate a first position adjacent the top cover 558, of control module 504, or a first position adjacent a top cover 545, of control module 502, and a second position, the second position displaced a predetermined vertical distance away from the first position. Further in the preferred embodiment, each directional control module 543 is a joystick.

FIG. 41 discloses the electronic game control apparatus 400 (also referred to herein as an input device 400), which in a preferred embodiment provides the first control module 402, the second control module 404, and the structural bridge 422, which collectively secures the computing device 418. In a preferred embodiment, a back of the structural bridge 422, supports a touch sensitive control module 544, which in a preferred embodiment is a touch screen 544.

FIG. 42 discloses the electronic game control apparatus 400 (also referred to herein as an input device 400), which in a preferred embodiment provides the first control module 402, the second control module 404, and the structural bridge 422, which collectively secures the computing device 418. In a preferred embodiment, a back 427, of the second control module, supports the touch sensitive control module 544, which in a preferred embodiment is a touch screen 544.

FIG. 43 discloses the electronic game control apparatus 500 (also referred to herein as an input device 500), which in a preferred embodiment provides the first control module 502, the second control module 504, and the structural bridge 522. In a preferred embodiment, a back of the structural bridge 522, supports a touch sensitive control module 546, which in a preferred embodiment is a touch screen 546.

FIG. 44 discloses the electronic game control apparatus 500 (also referred to herein as an input device 500), which in a preferred embodiment provides the first control module 502, the second control module 504, and the structural bridge 522. In a preferred embodiment, a back side of the second control module 504, supports the touch sensitive control module 546, which in a preferred embodiment is a touch screen 546.

It is to be understood that even though numerous characteristics and configurations of various embodiments of the present invention have been set forth in the foregoing description, together with details of the structure and function of various embodiments of the invention, this detailed description is illustrative only, and changes may be made in detail, especially in matters of structure and arrangements of parts within the principles of the present invention to the full extent indicated by the broad general meaning of the terms in which the appended claims are expressed. For example, the particular elements may vary depending on the particular computing device without departing from the spirit and scope of the present invention.

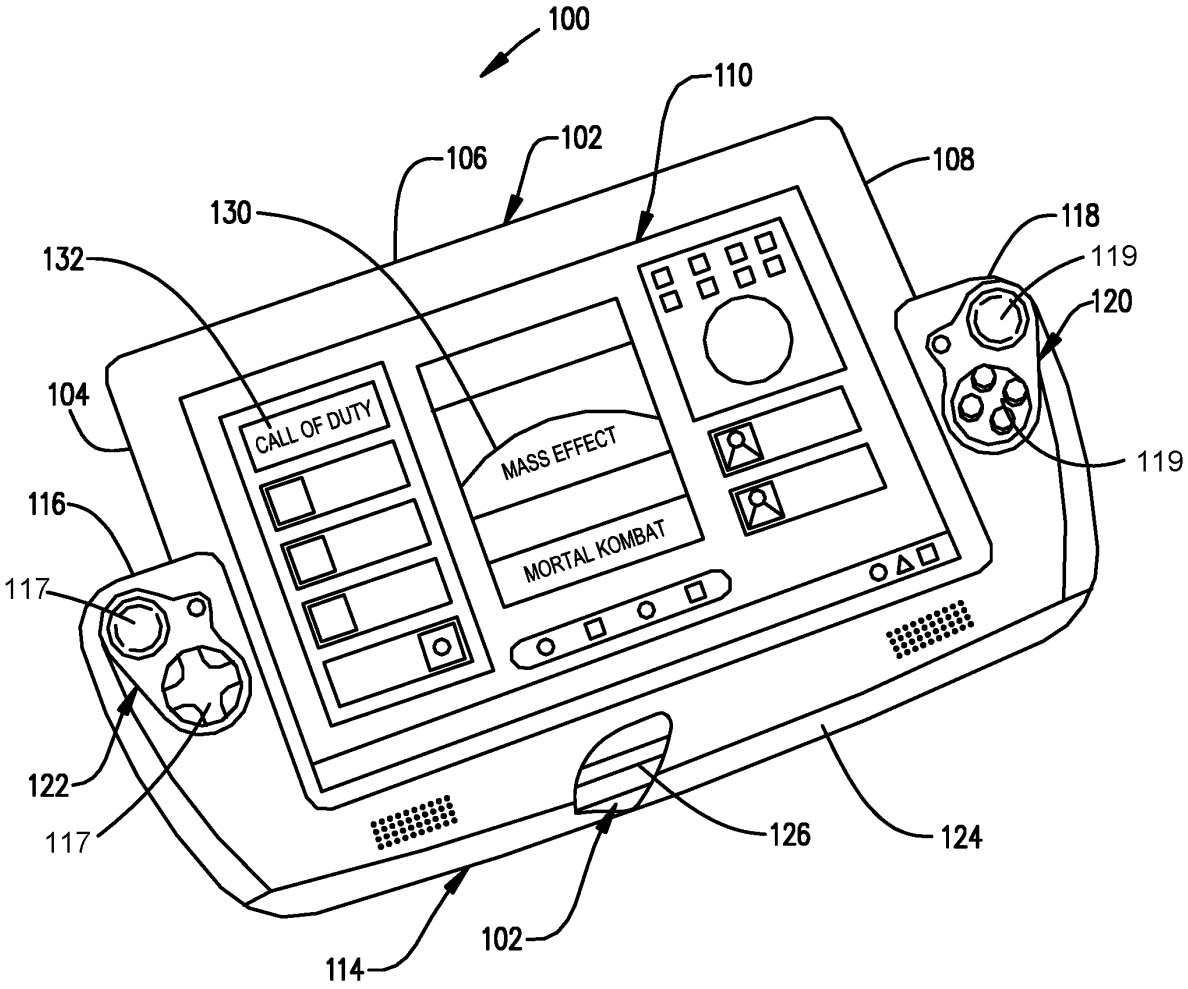

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CALL OF DUTY
MASS EFFECT
MORTAL KOMBAT
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114

FIG. 1

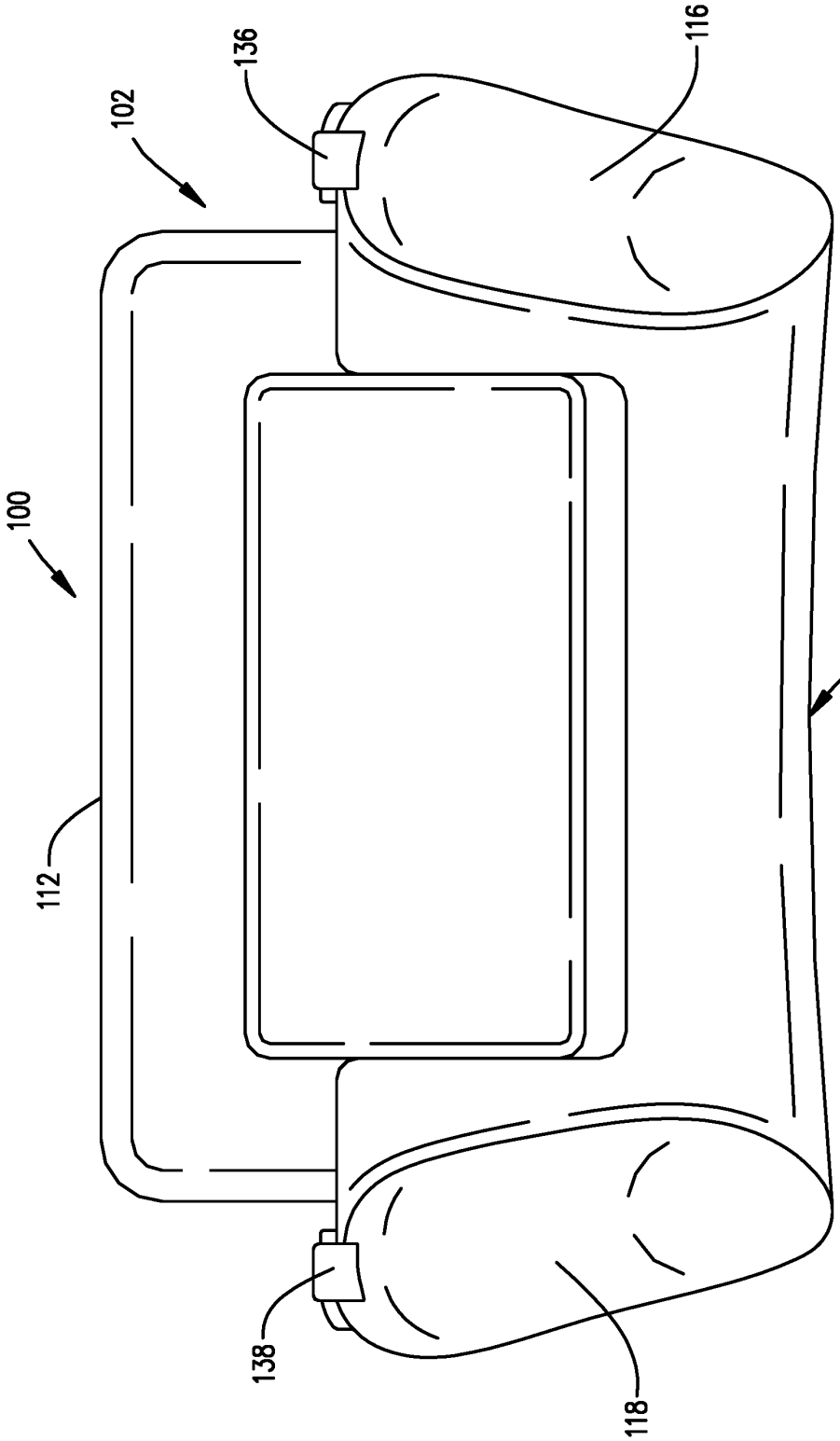


FIG. 2

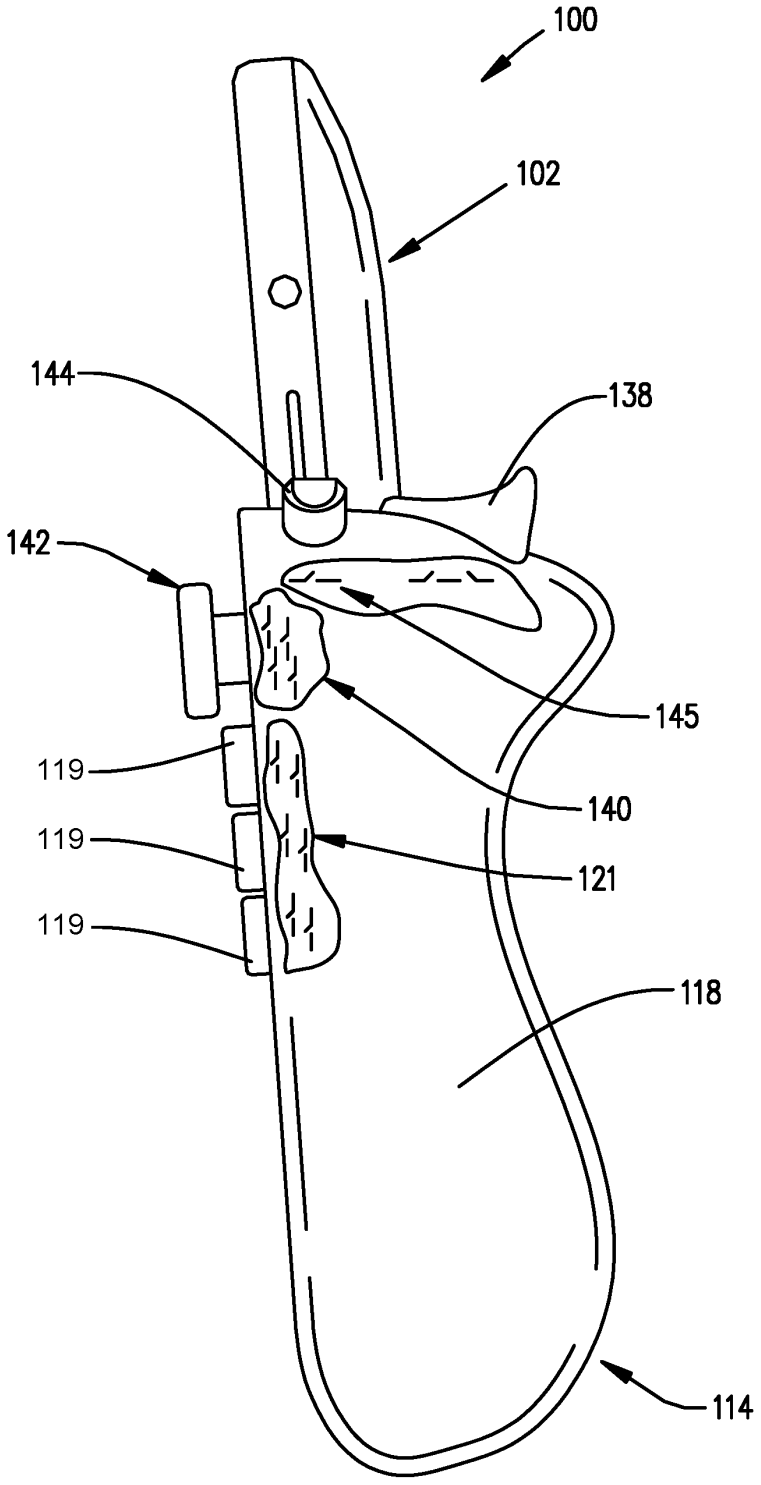


FIG. 3

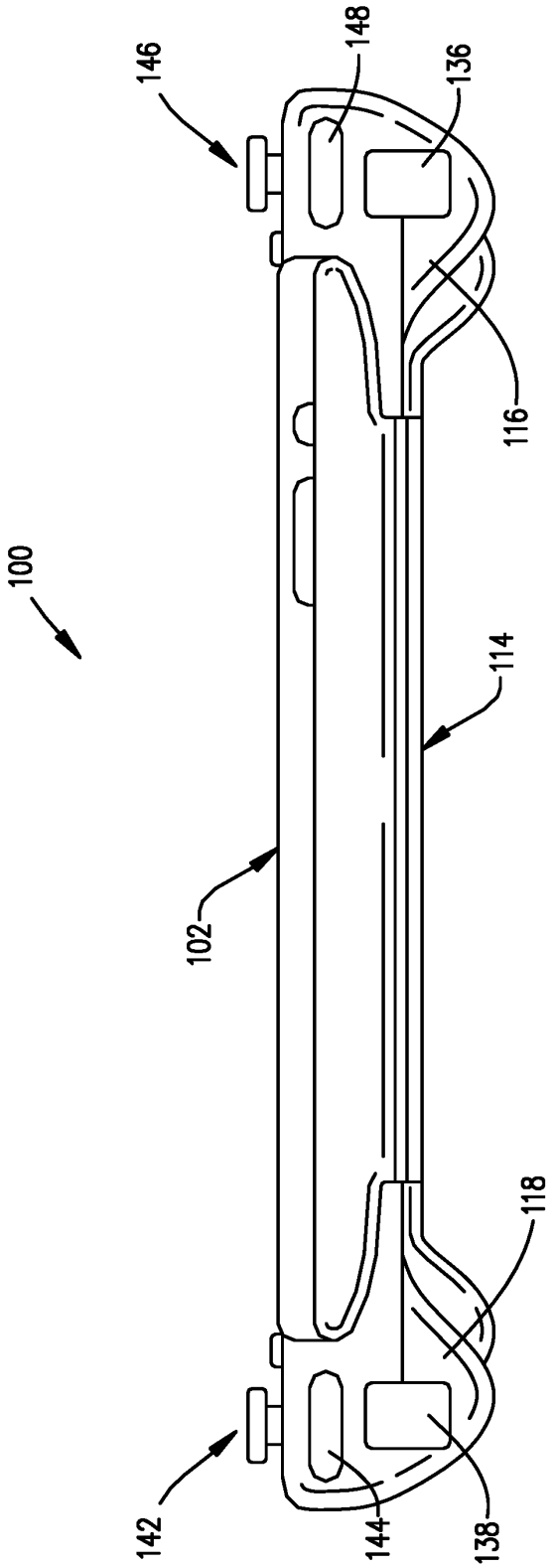


FIG. 4

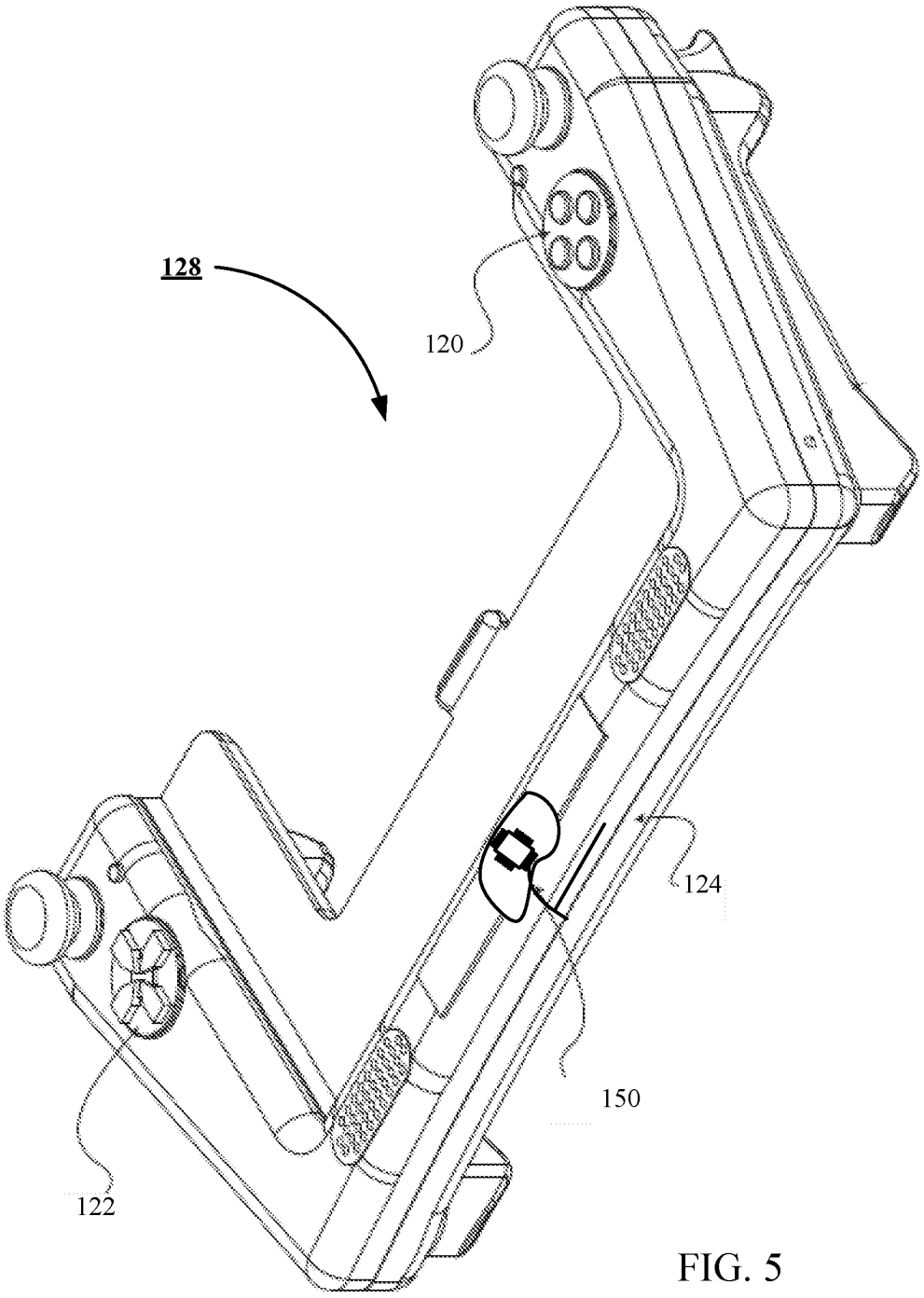


FIG. 5

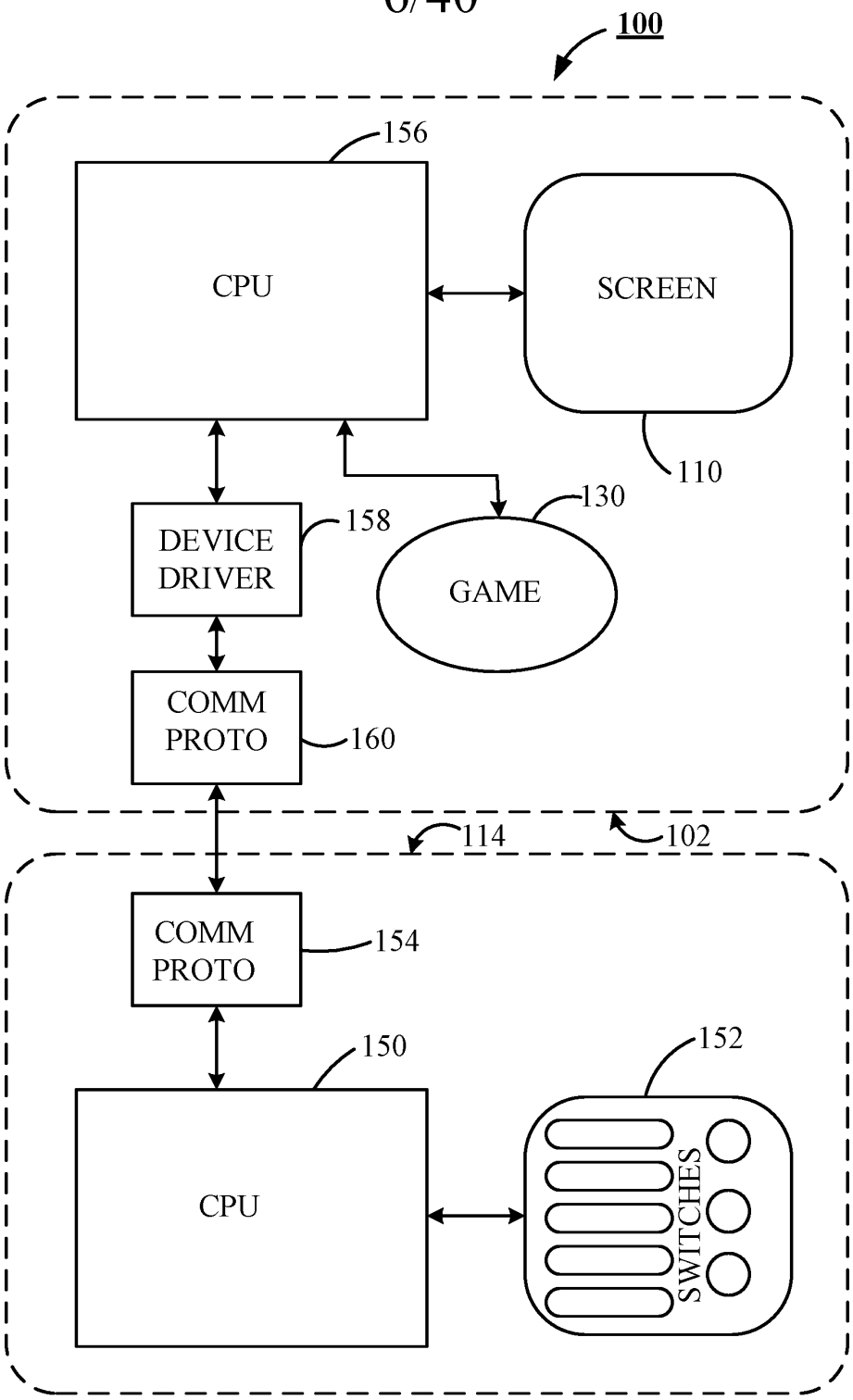

100
156
CPU
SCREEN
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DEVICE DRIVER
GAME
COMM PROTO
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COMM PROTO
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152
CPU
SWITCHES

FIG. 6

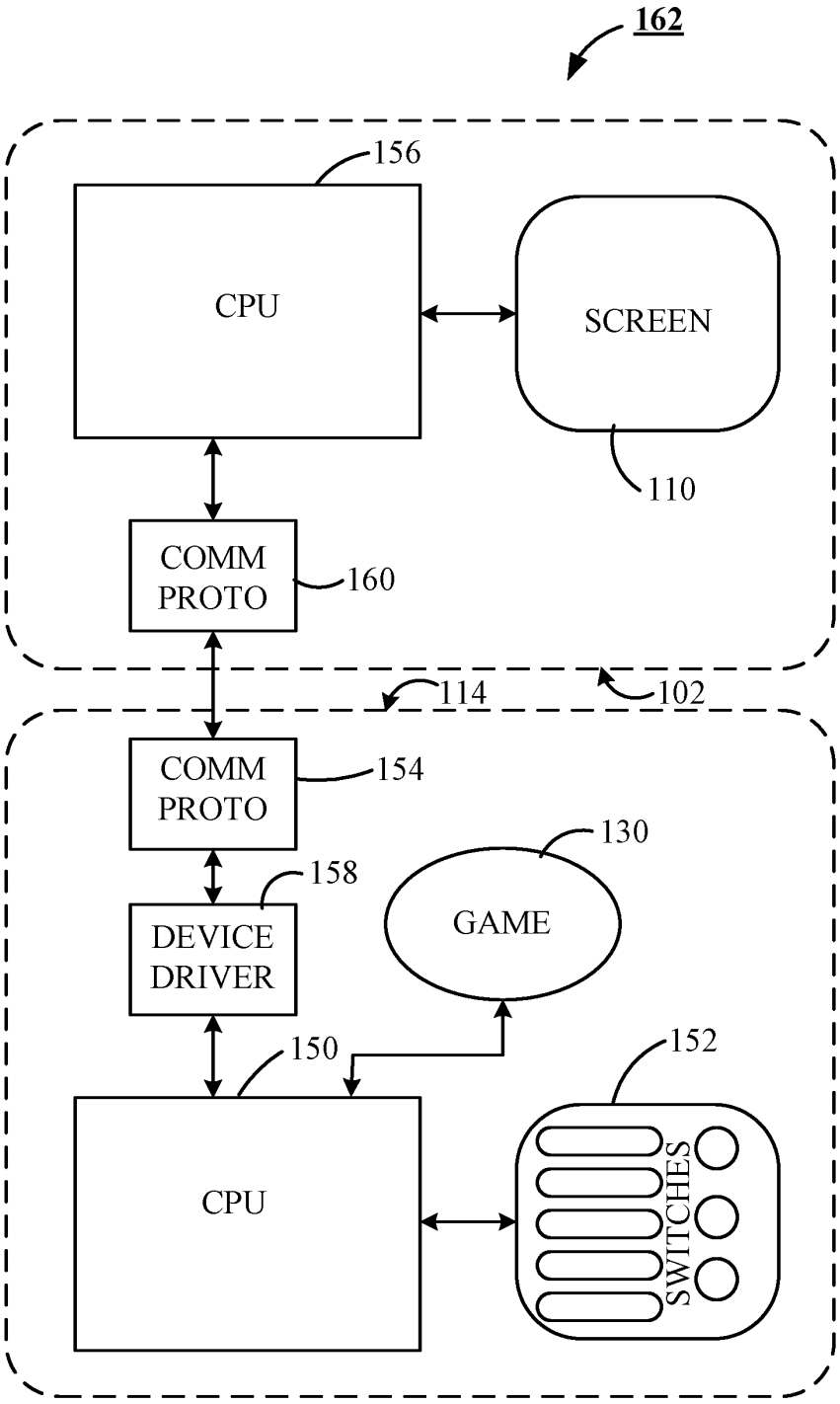

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CPU
SCREEN
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COMM PROTO
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COMM PROTO
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GAME
DEVICE DRIVER
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CPU
SWITCHES

FIG. 7

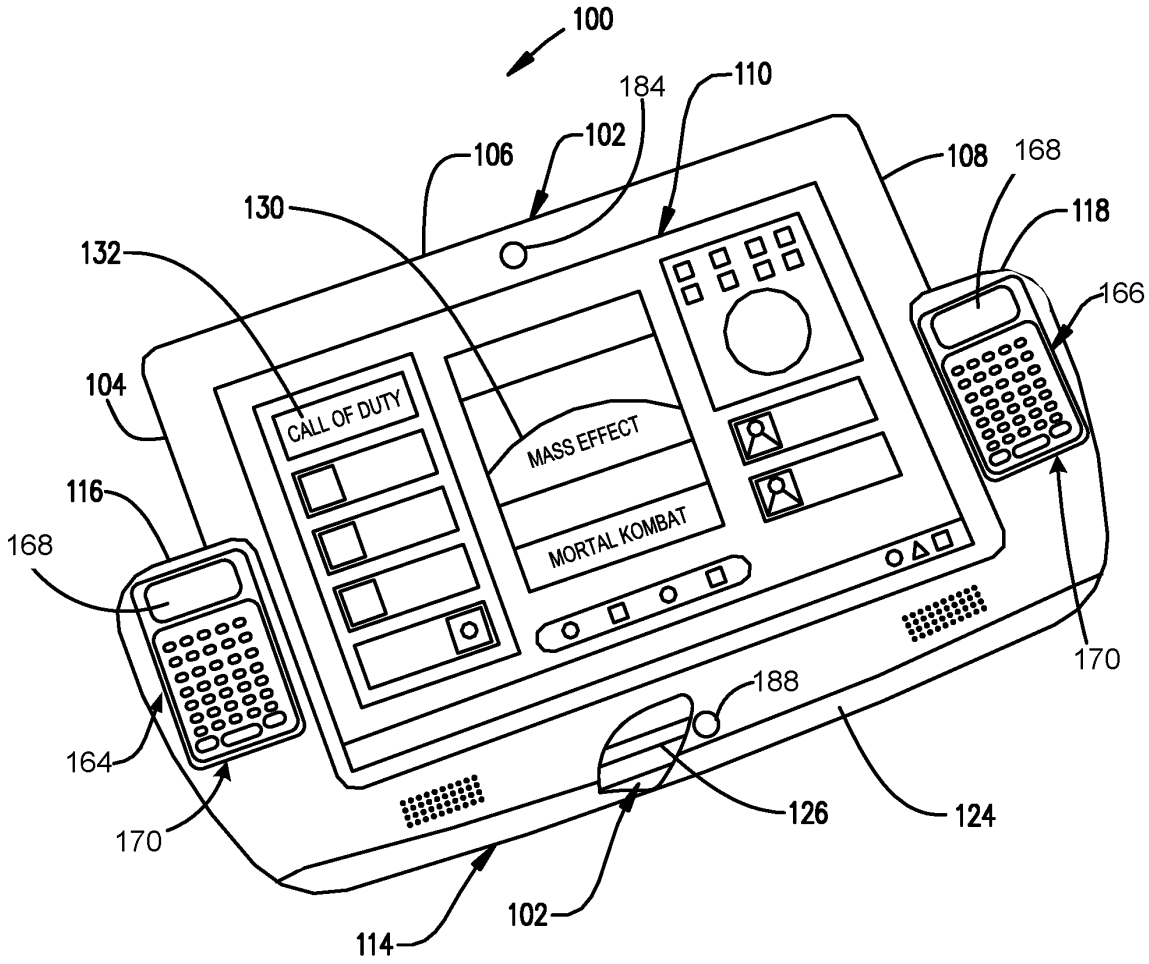

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MASS EFFECT
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MORTAL KOMBAT
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FIG. 8

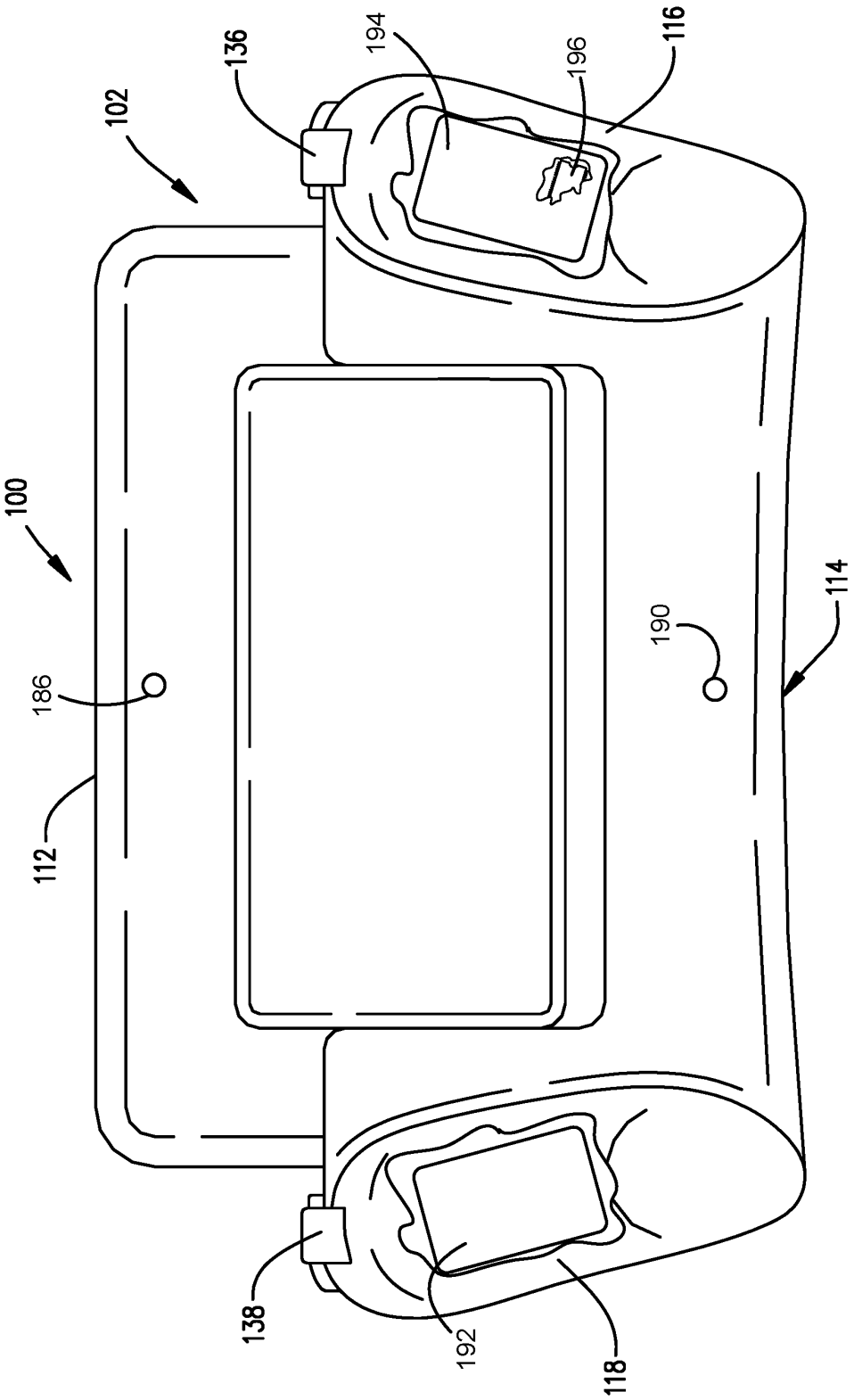


FIG. 9

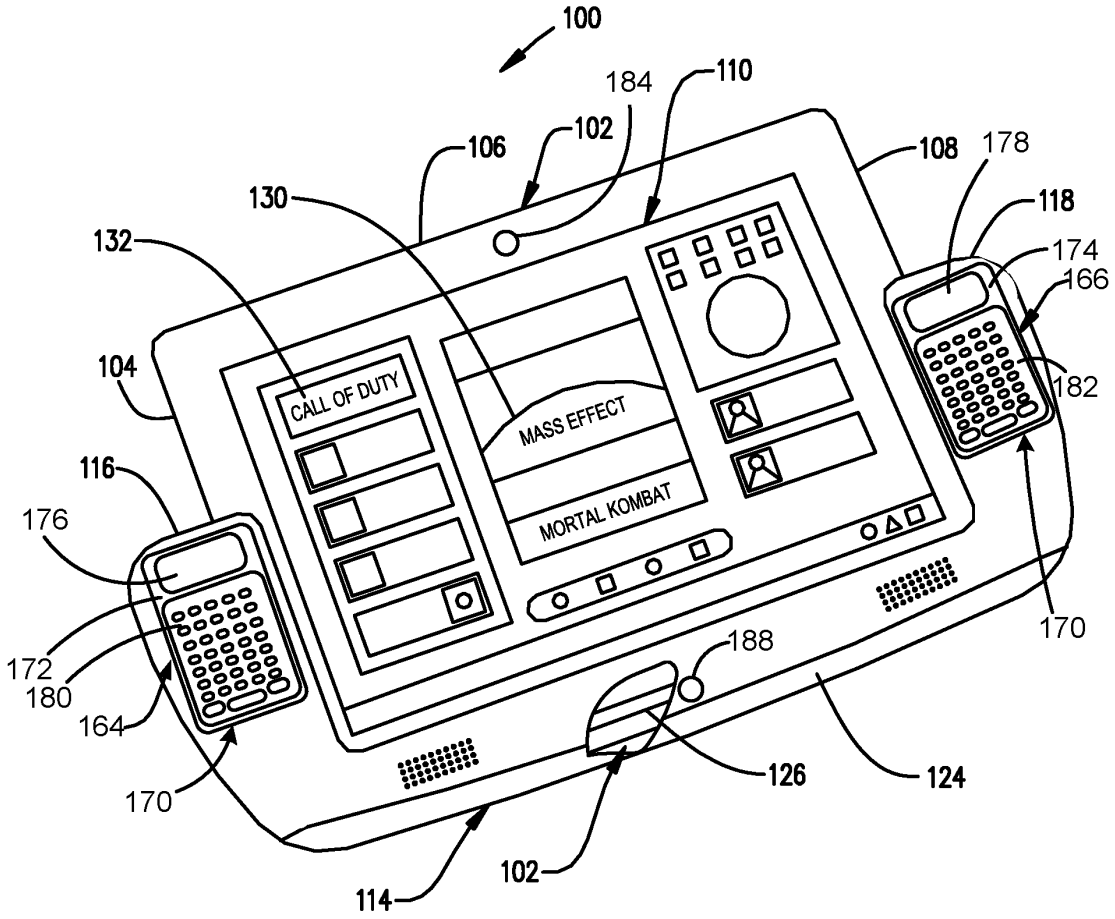

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CALL OF DUTY
MASS EFFECT
MORTAL KOMBAT
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FIG. 10

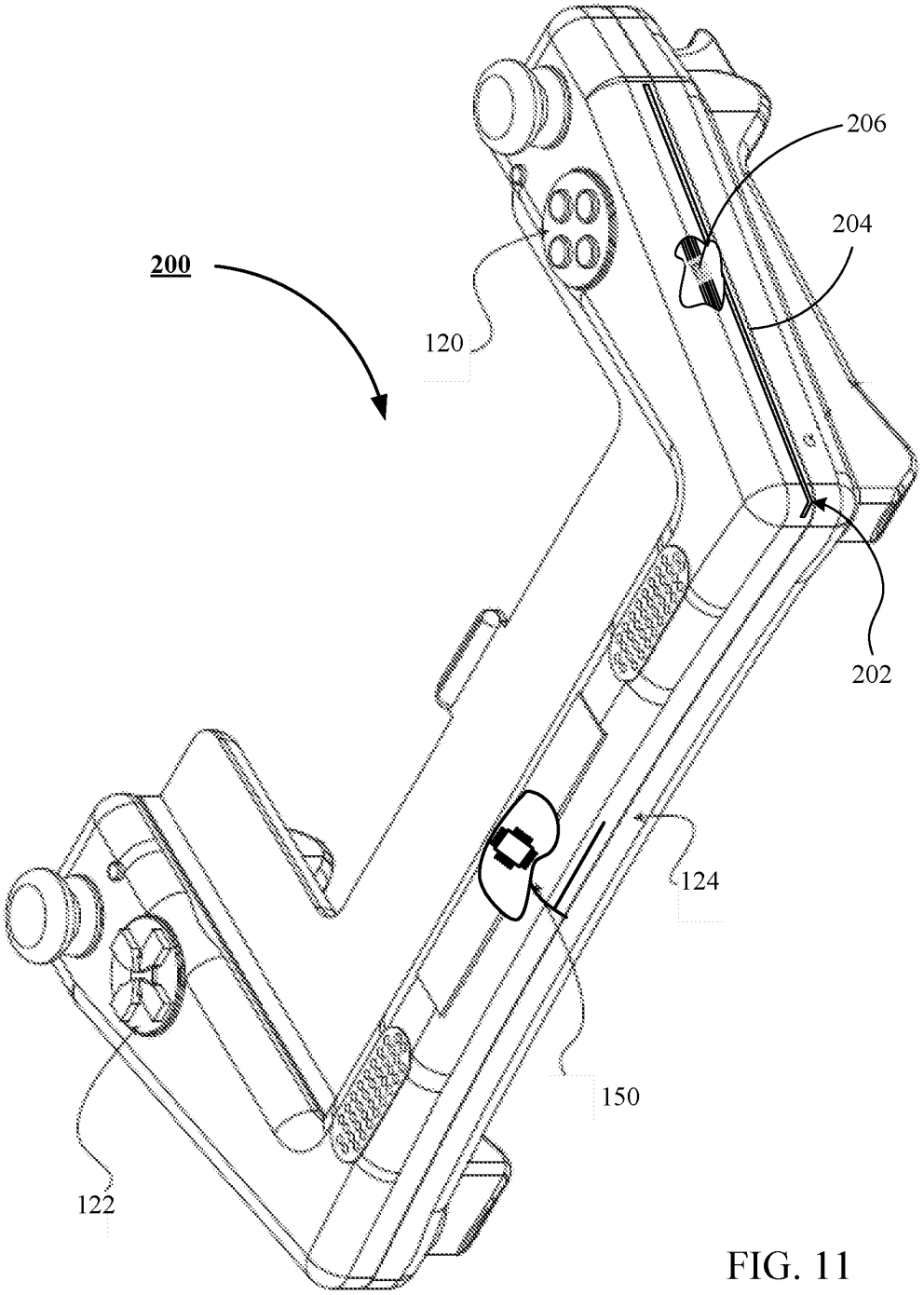


FIG. 11

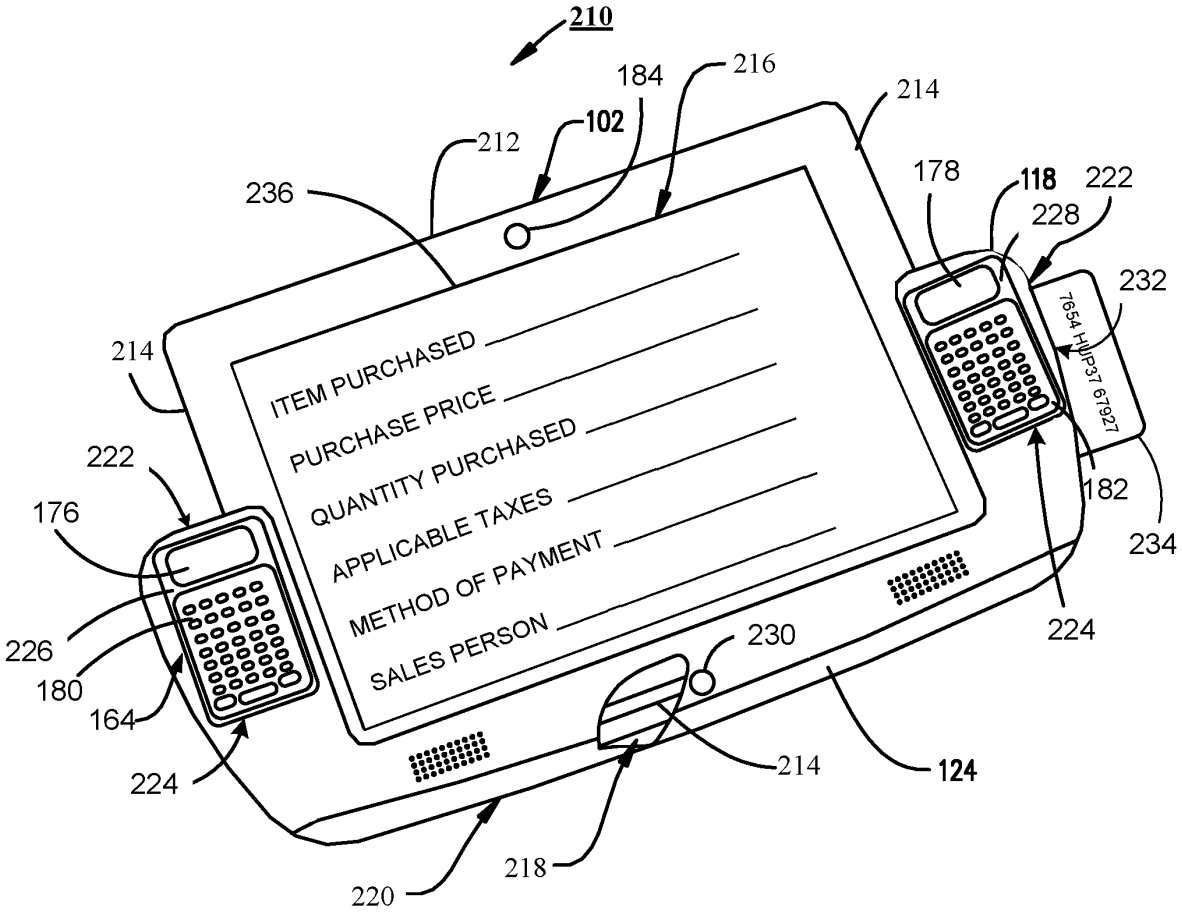

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ITEM PURCHASED
PURCHASE PRICE
QUANTITY PURCHASED
APPLICABLE TAXES
METHOD OF PAYMENT
SALES PERSON
222
176
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FIG. 12

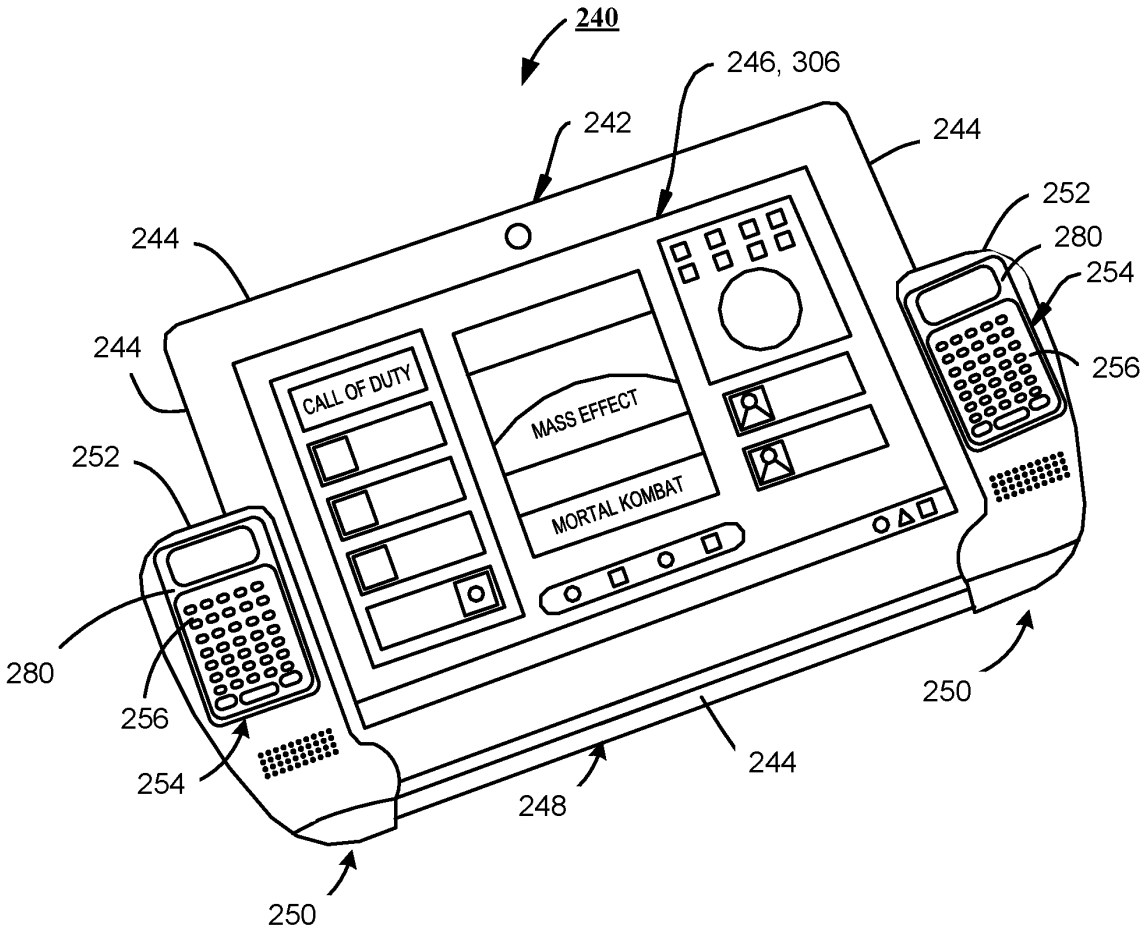

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CALL OF DUTY
MASS EFFECT
MORTAL KOMBAT
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FIG. 13

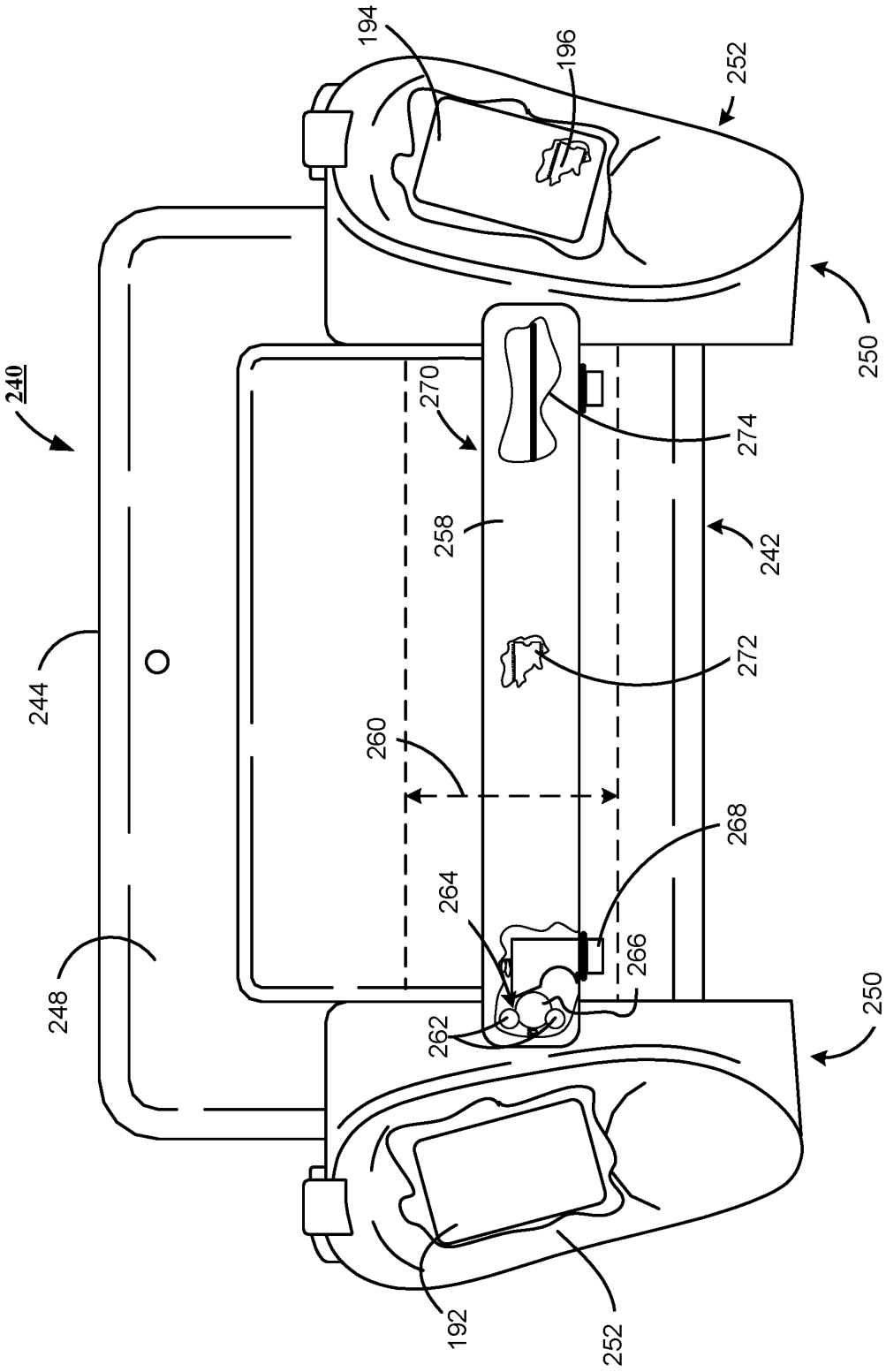

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FIG. 14

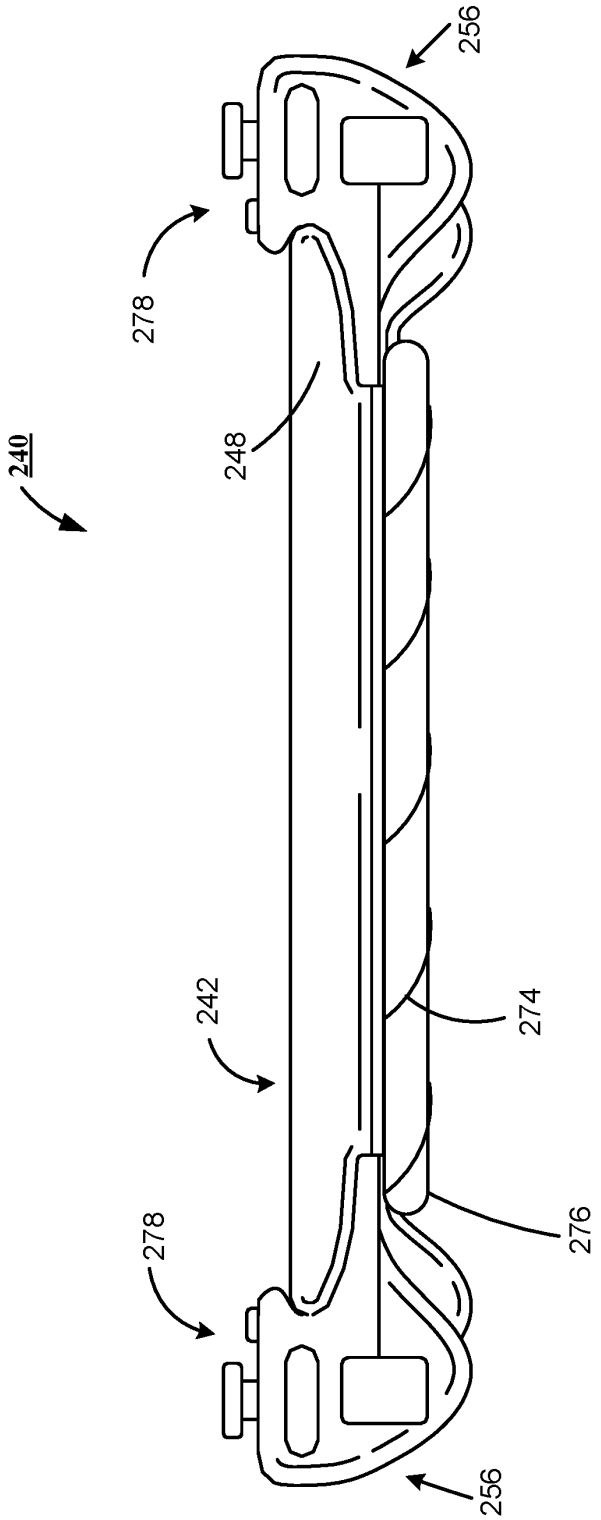


FIG. 15

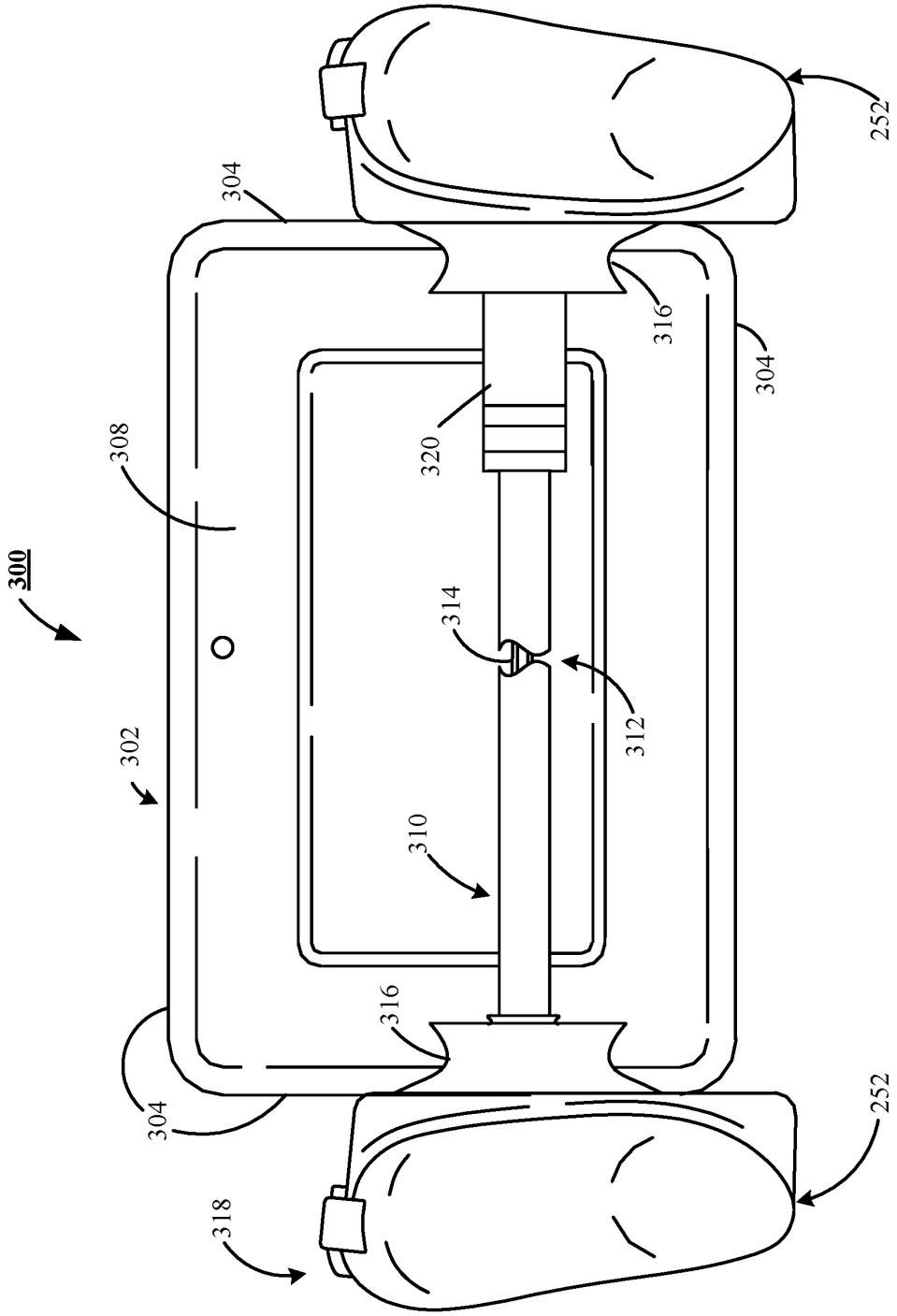


FIG. 16

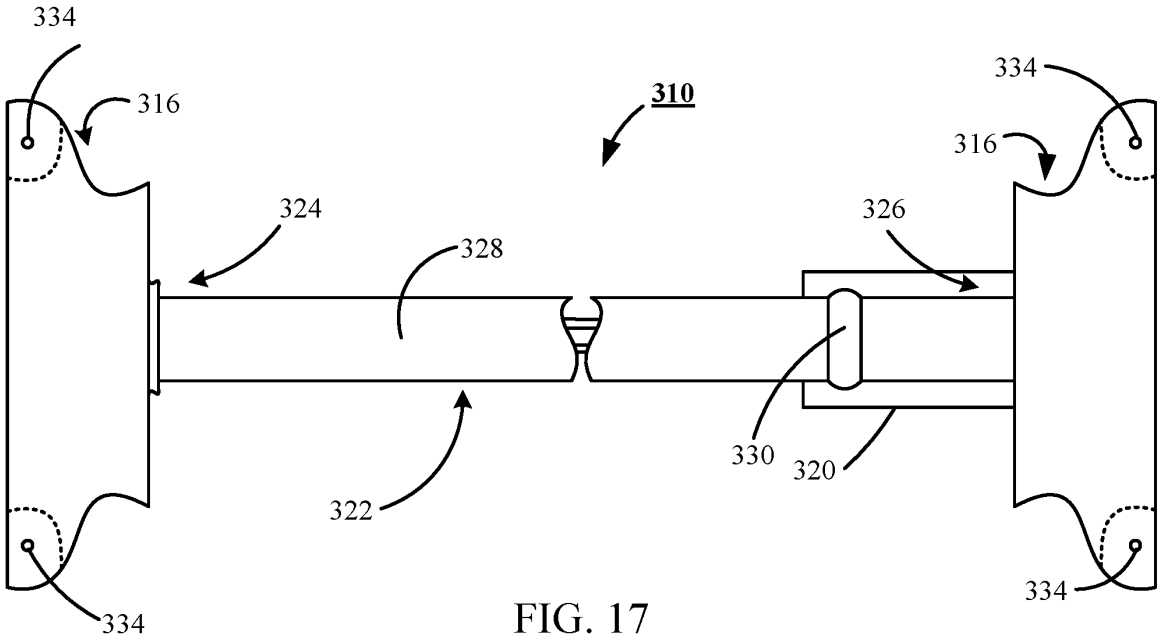

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FIG. 17

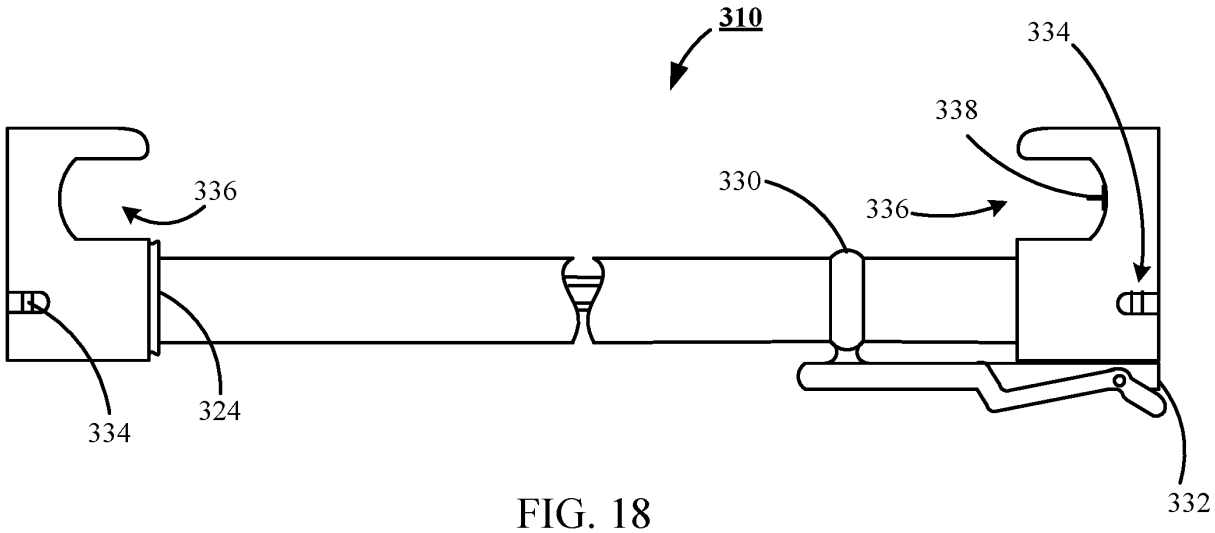

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FIG. 18

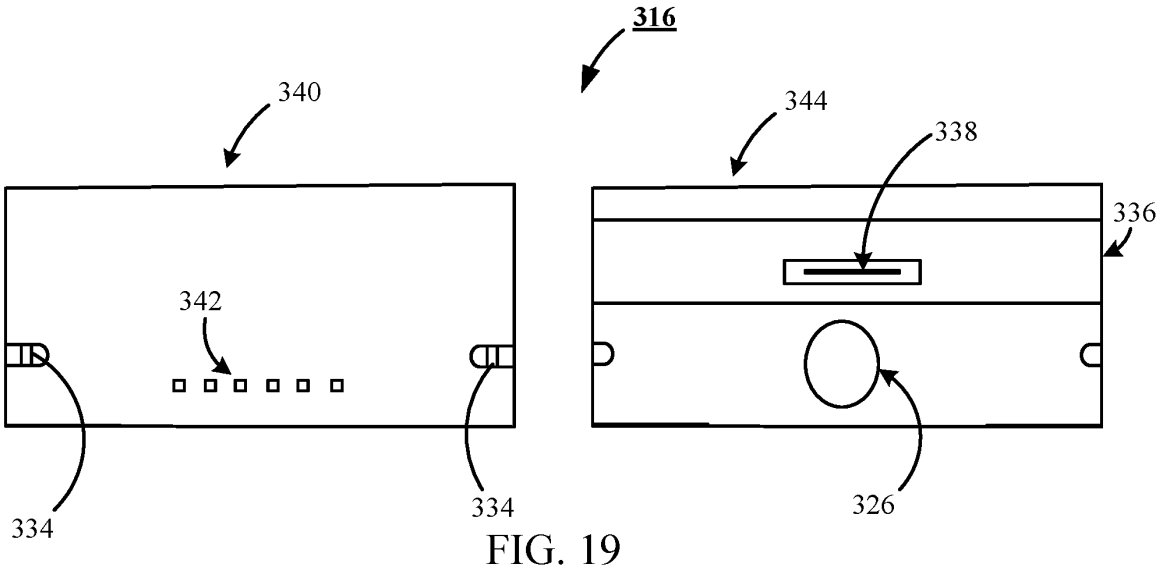

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FIG. 19

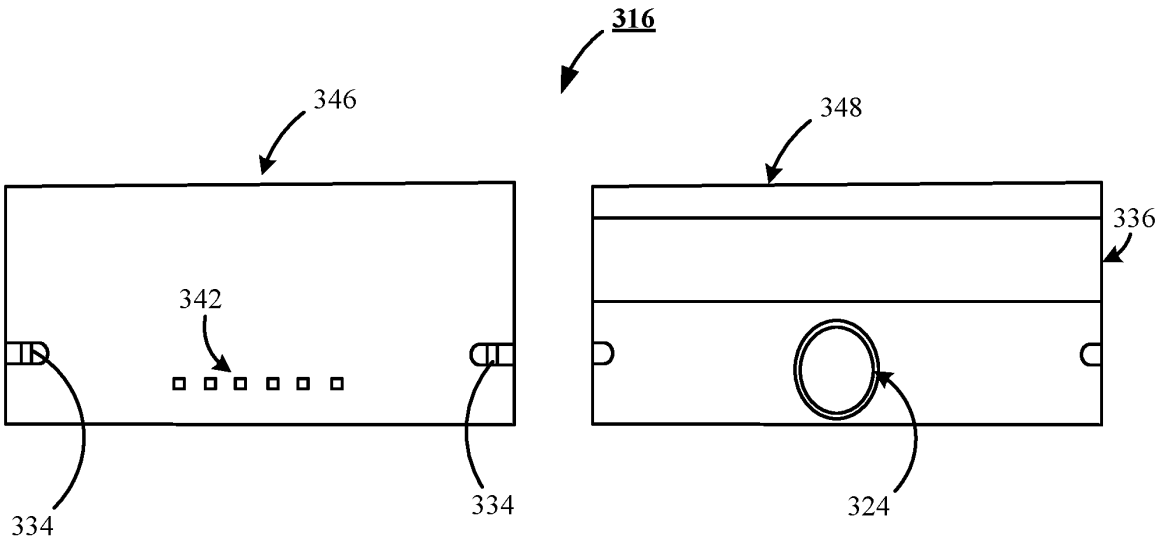

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FIG. 20

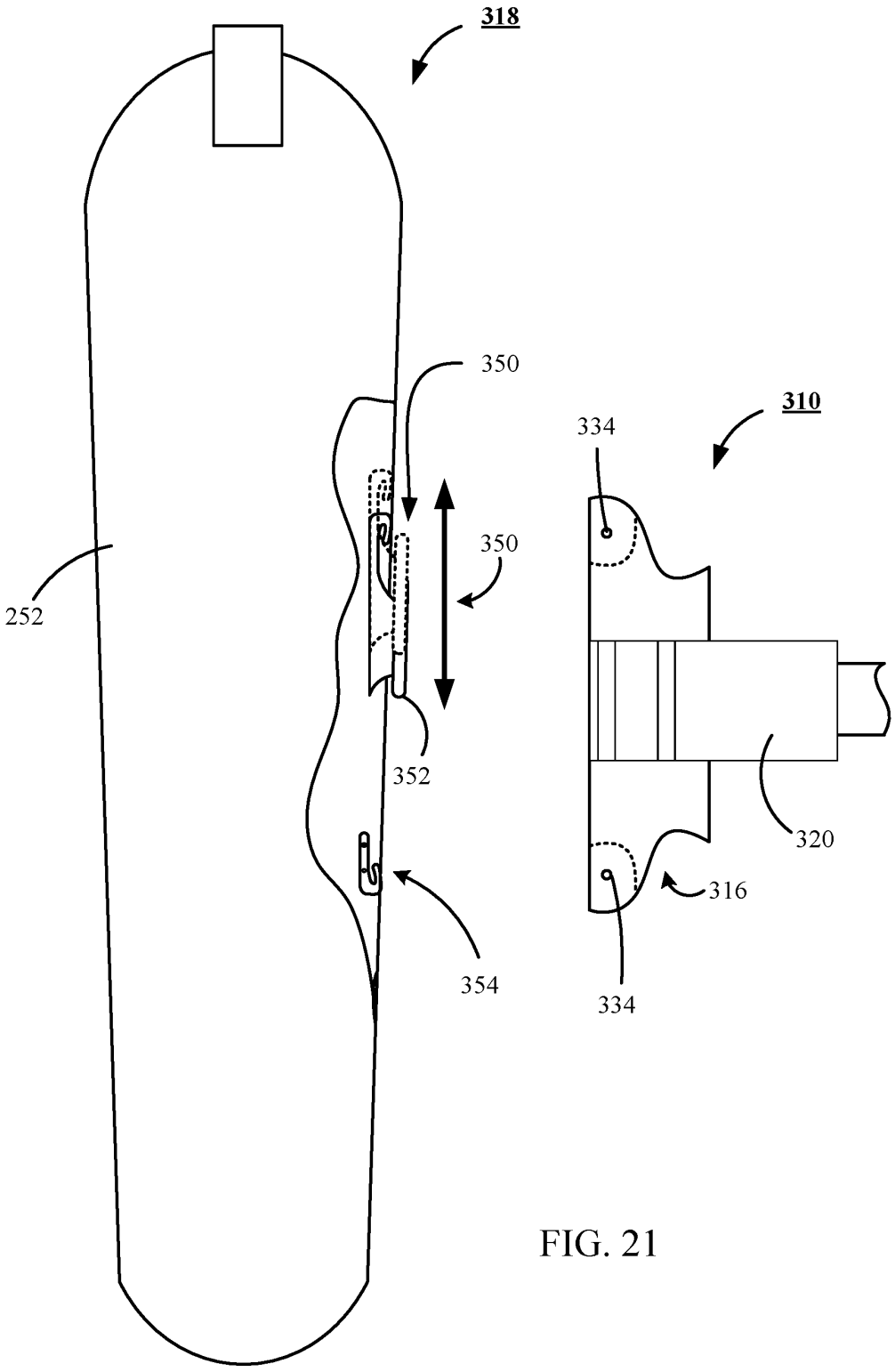


FIG. 21

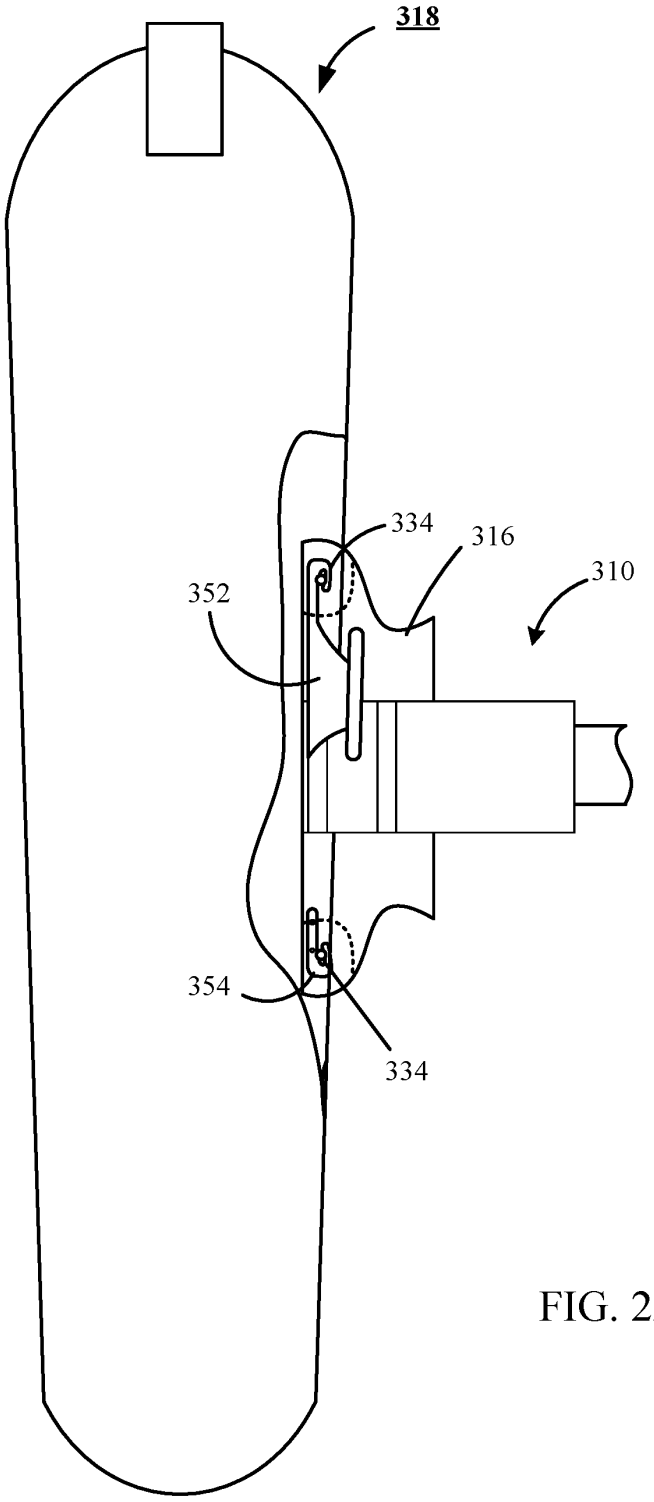


FIG. 22

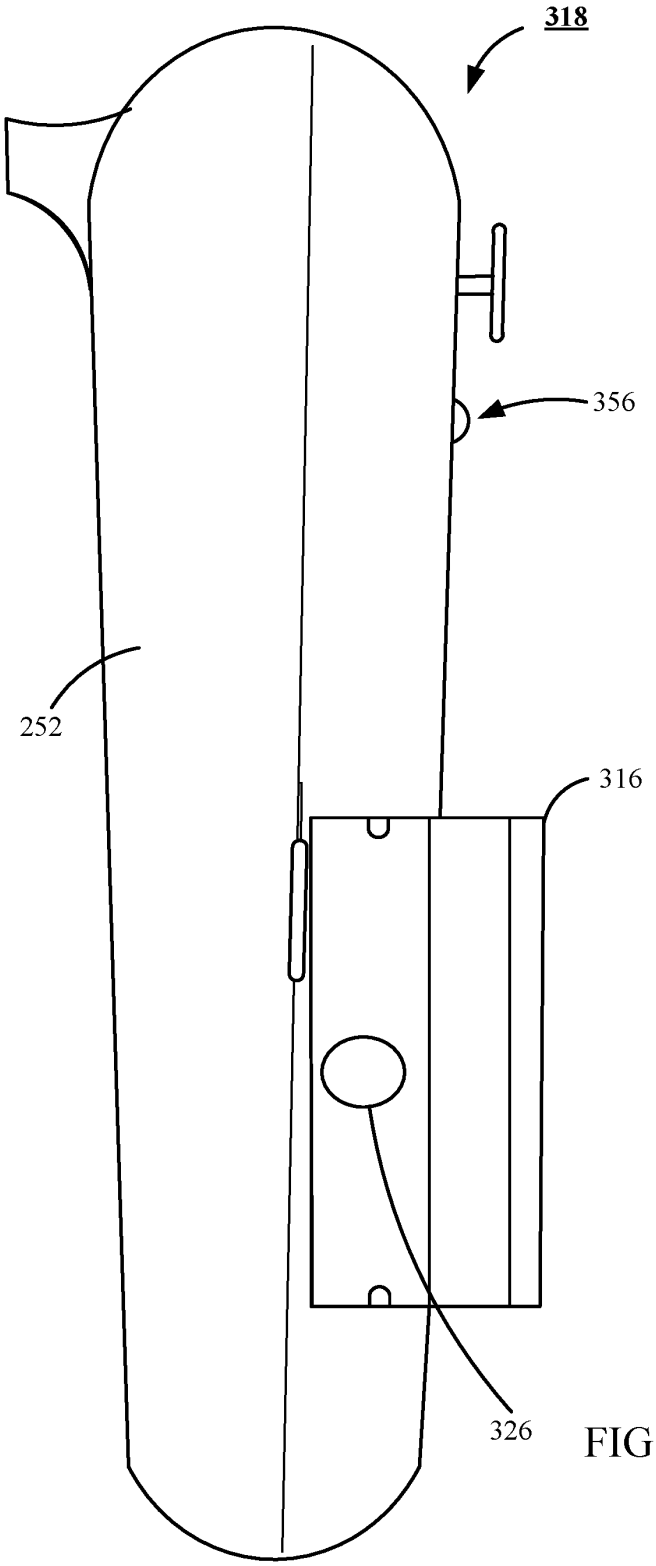


FIG. 23

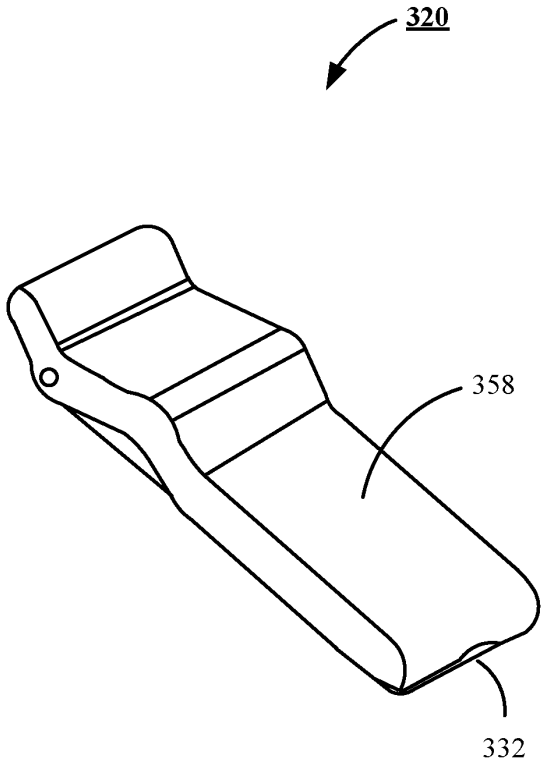


FIG. 24

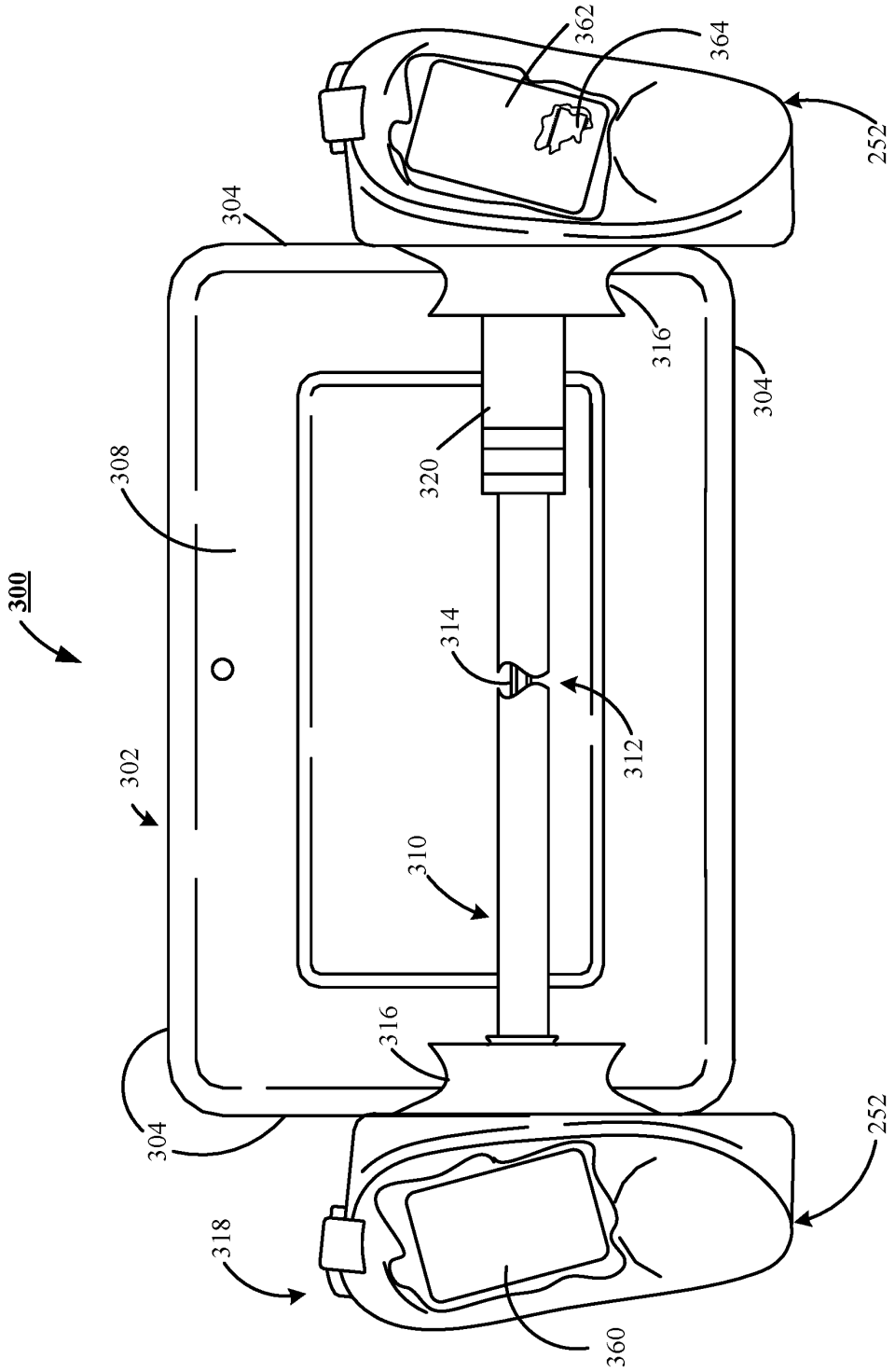

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FIG. 25

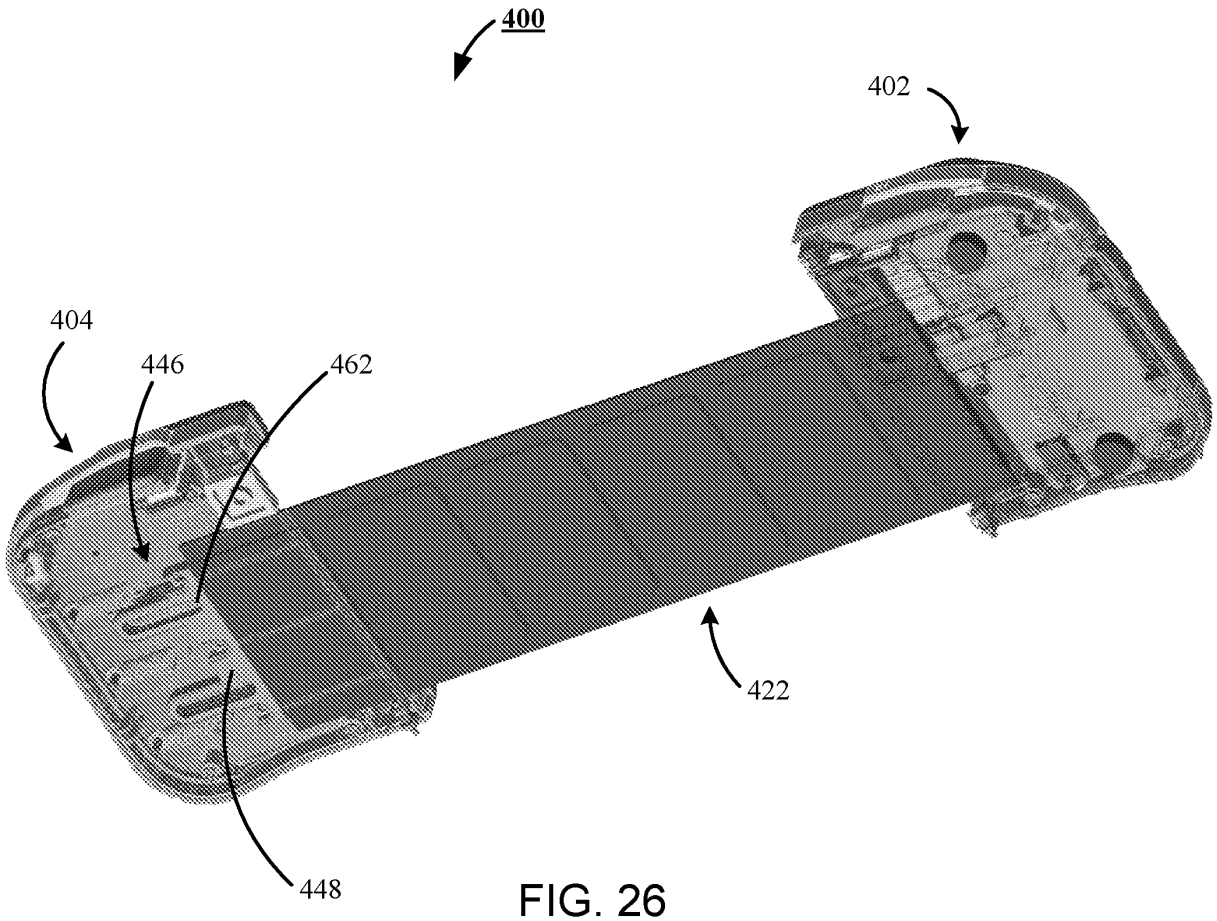


FIG. 26

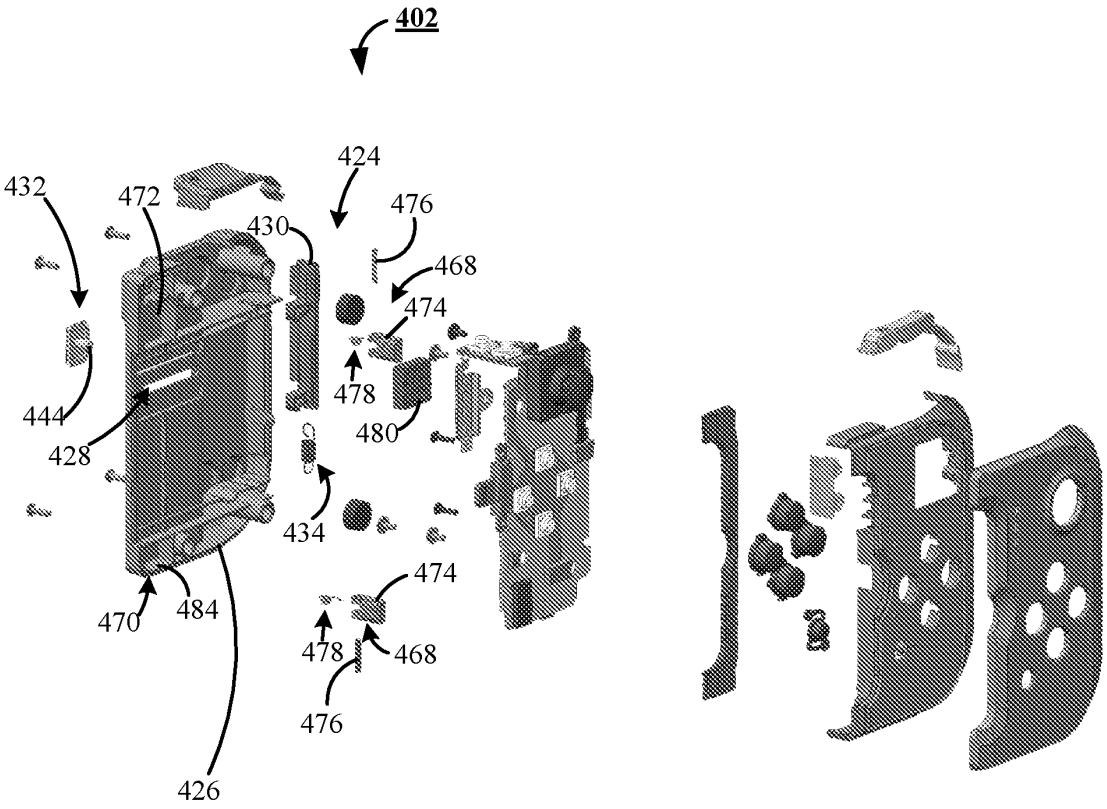

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FIG. 27

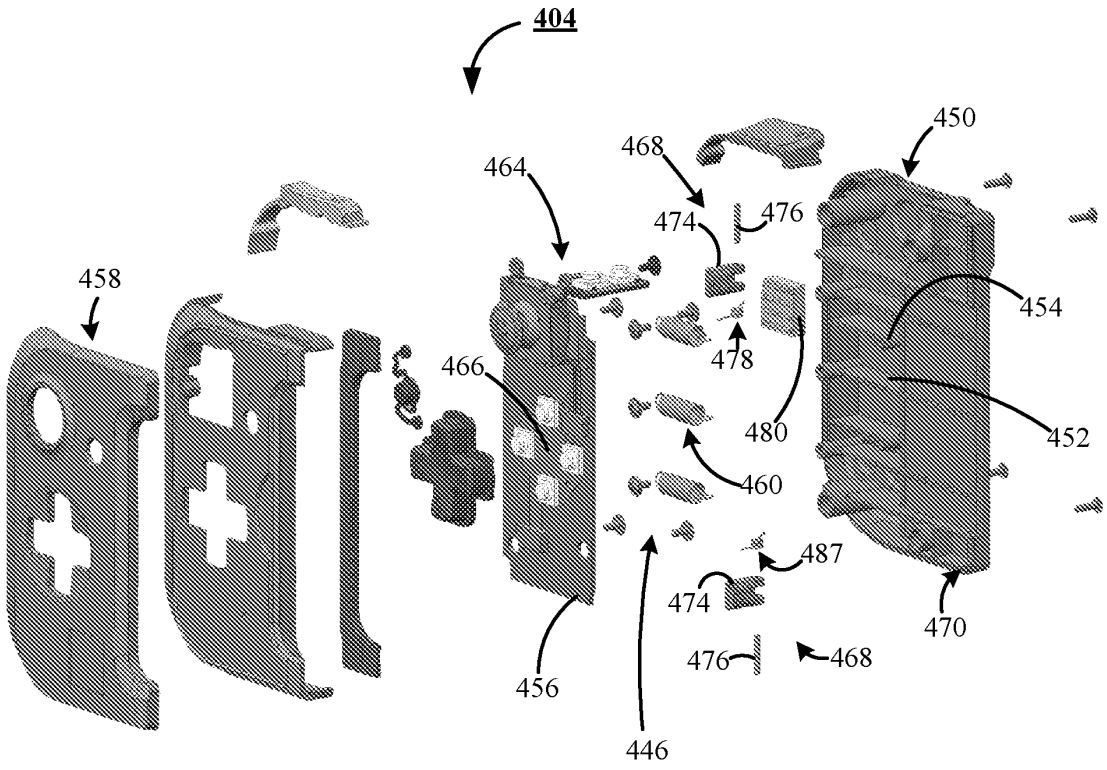

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FIG. 28

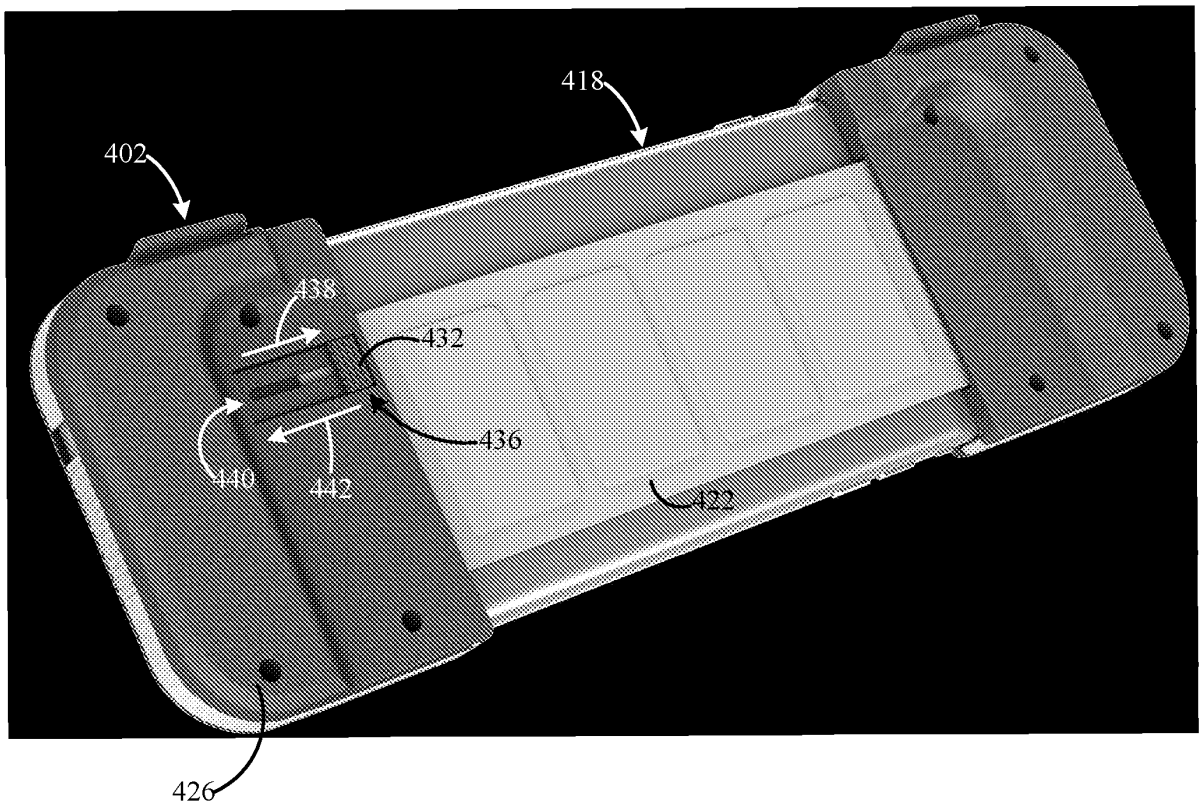


FIG. 29

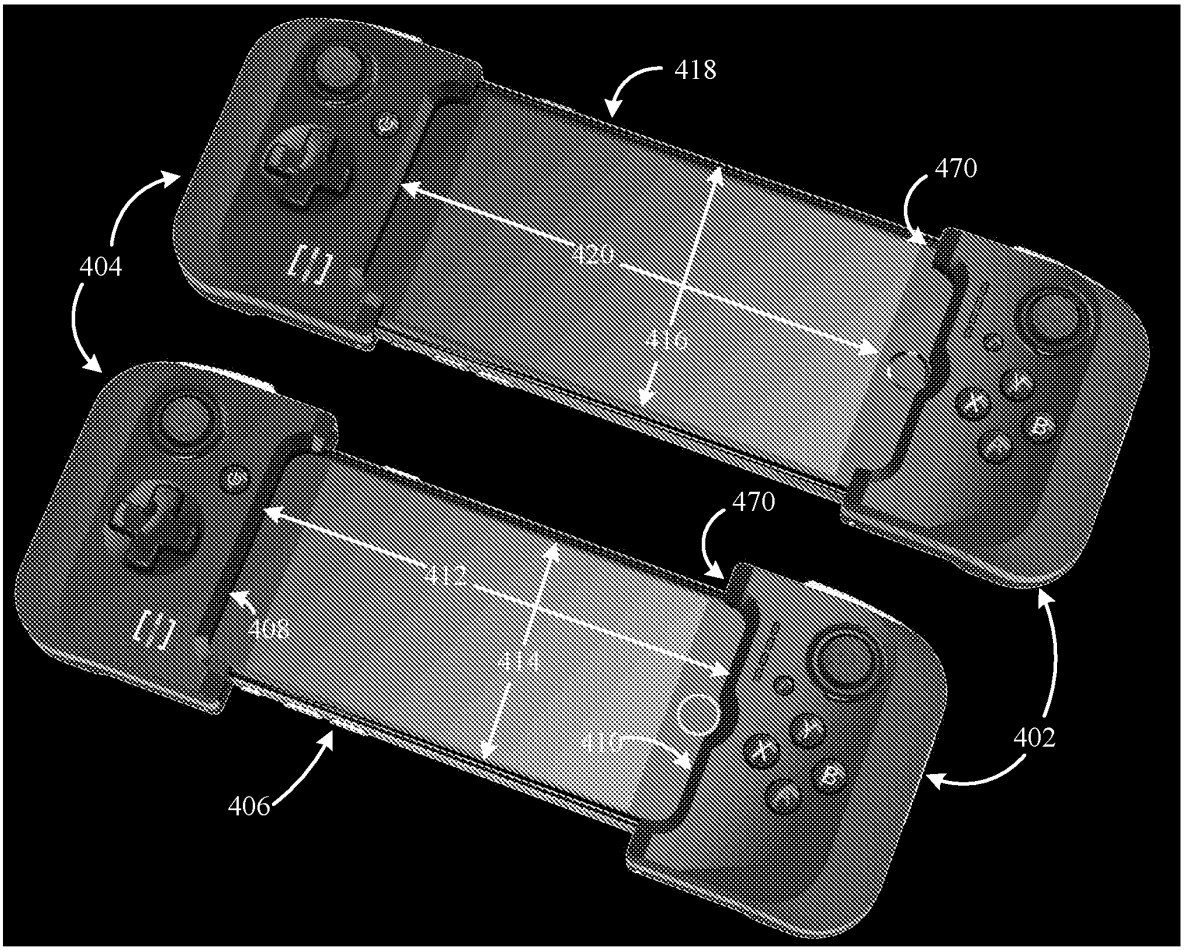


FIG. 30

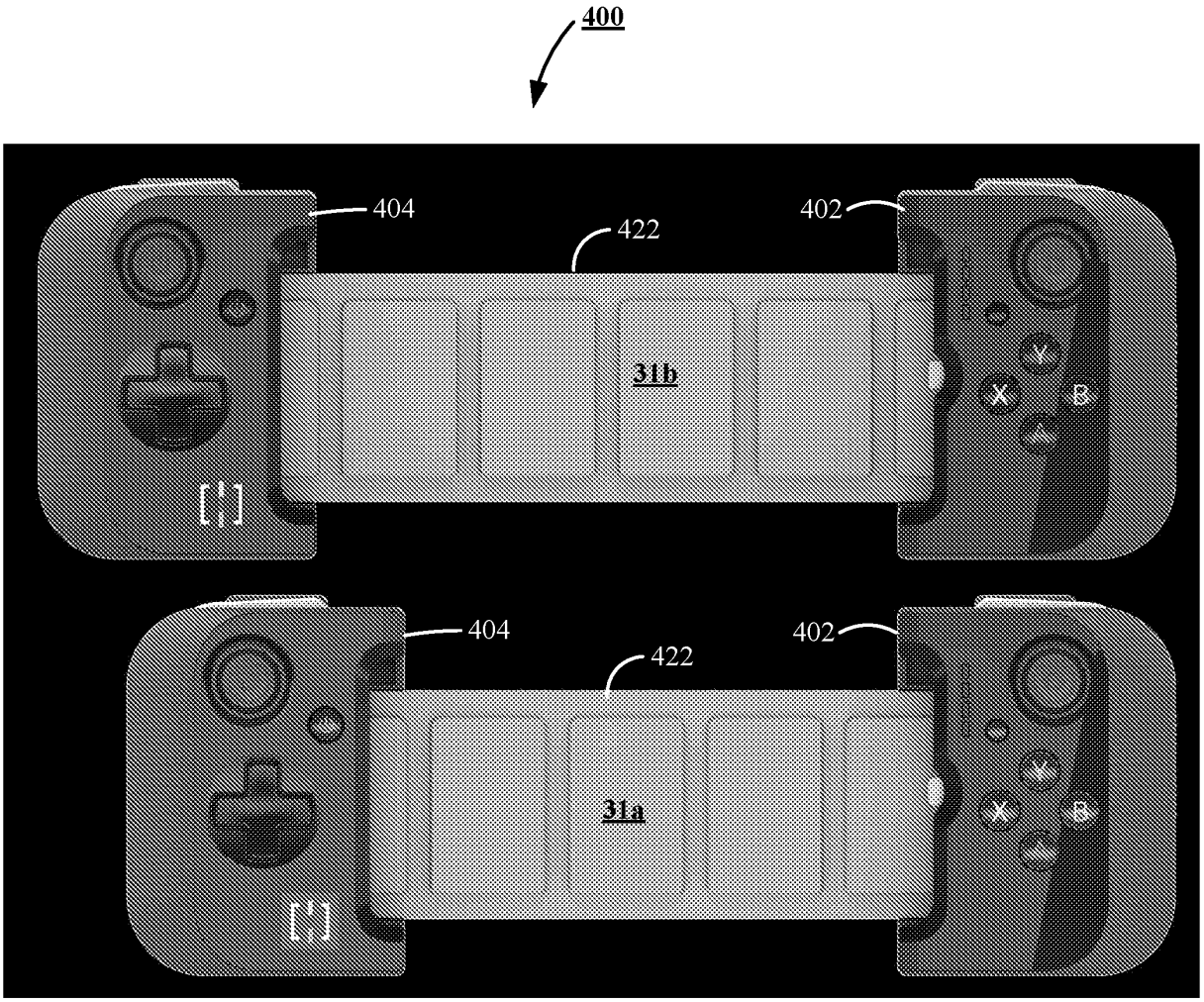


FIG. 31

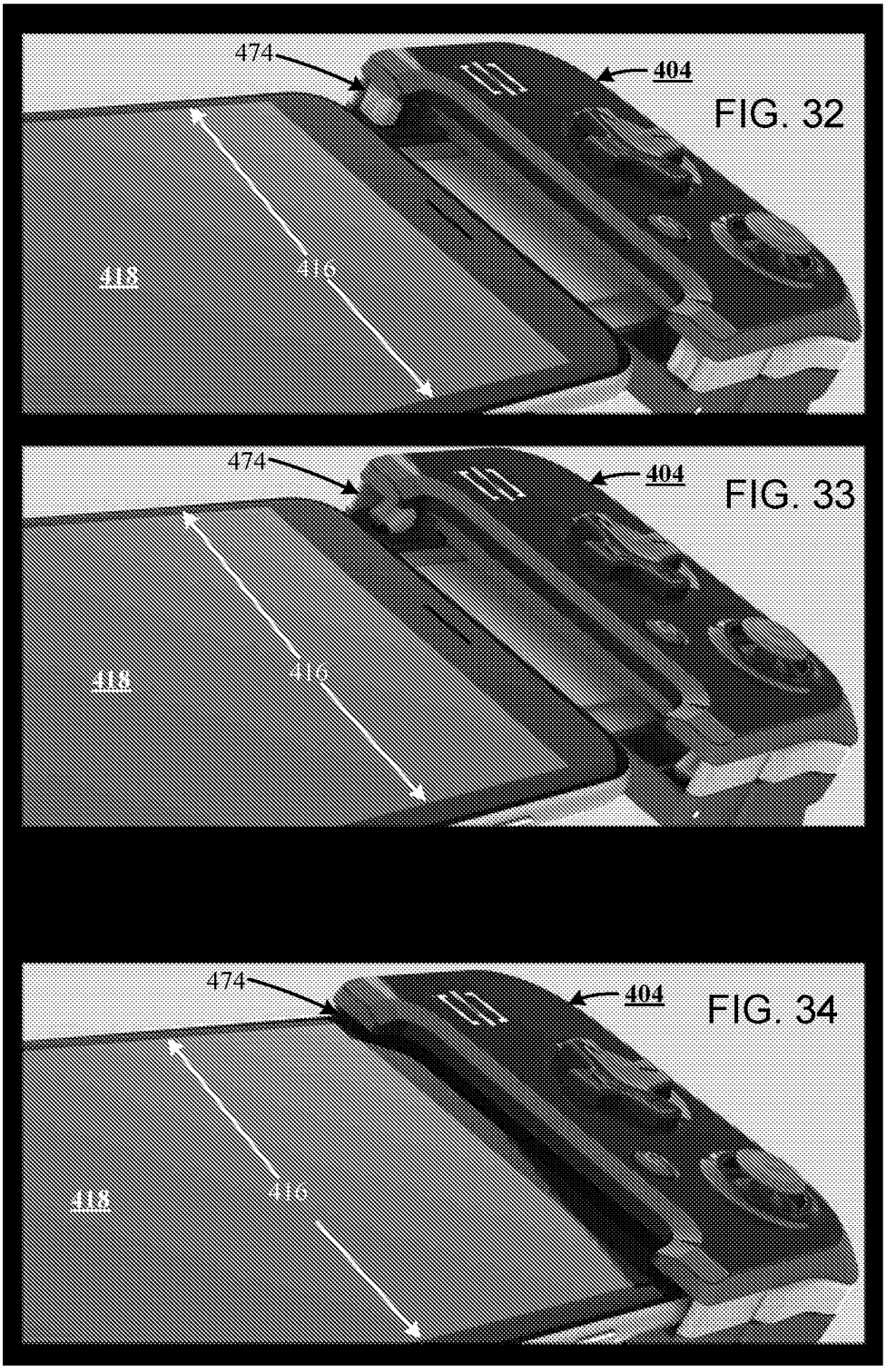


FIG. 32

FIG. 33

FIG. 34

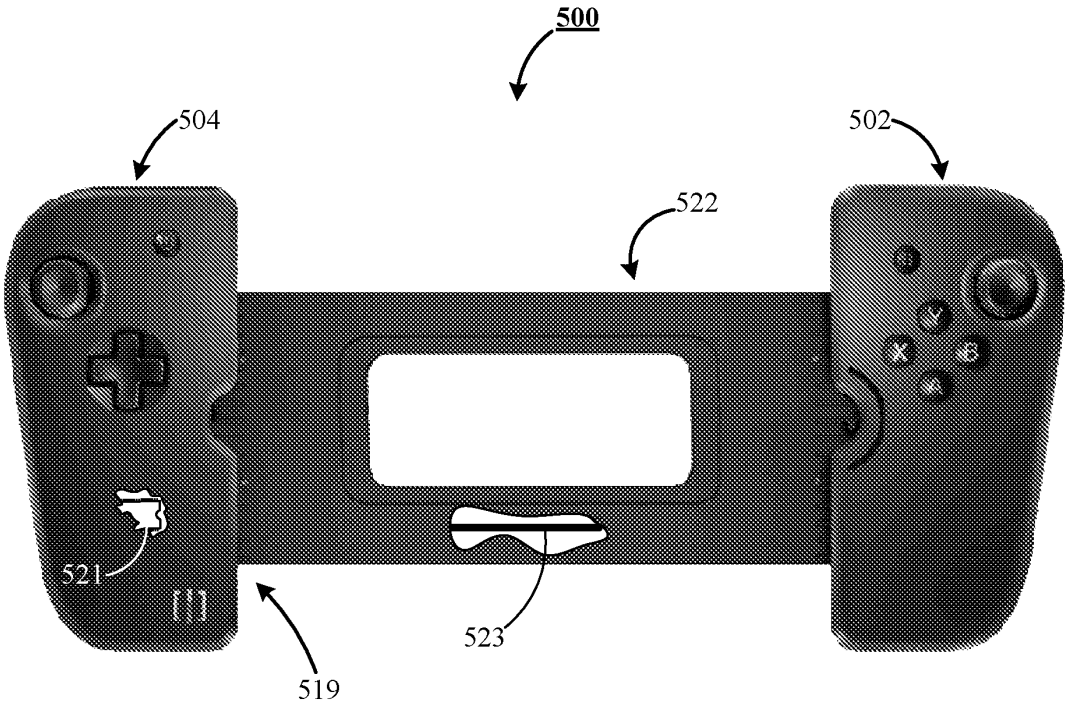


FIG. 35

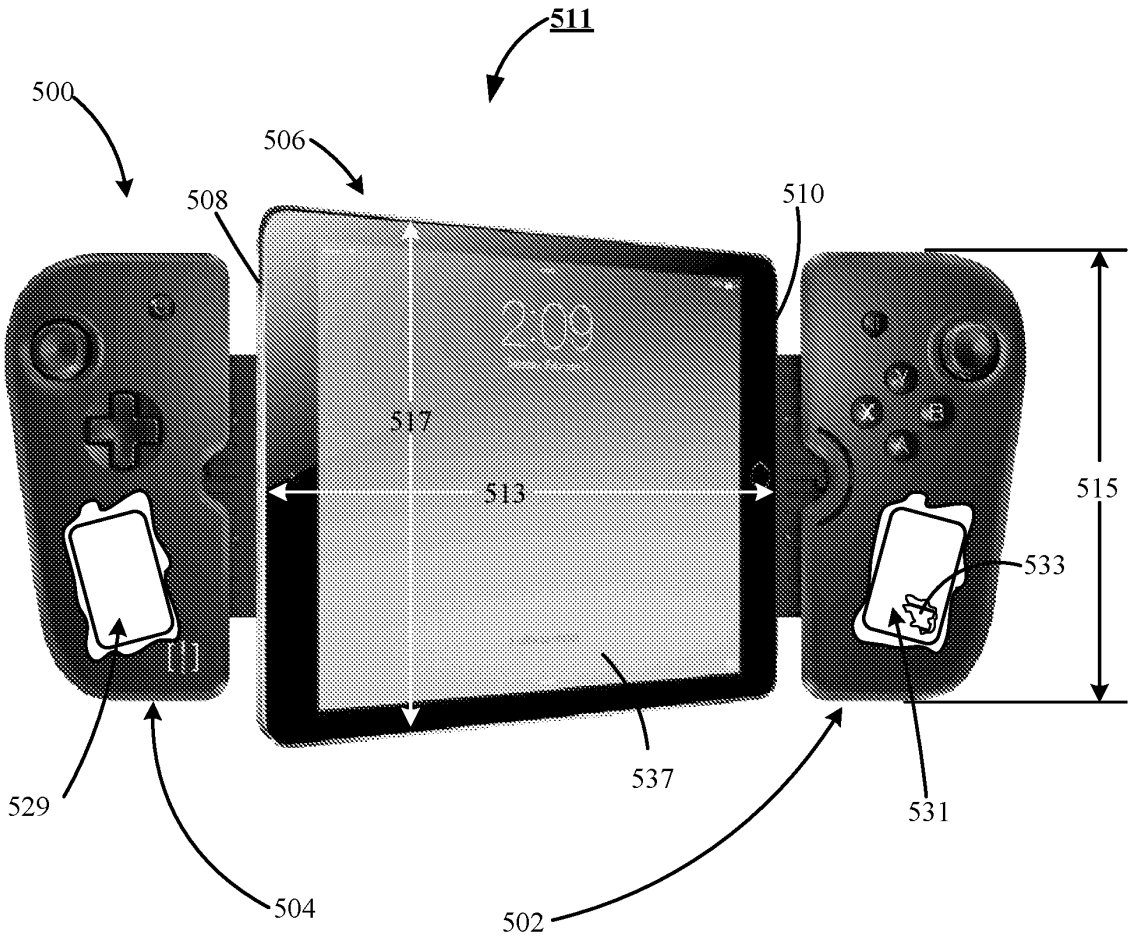


FIG. 36

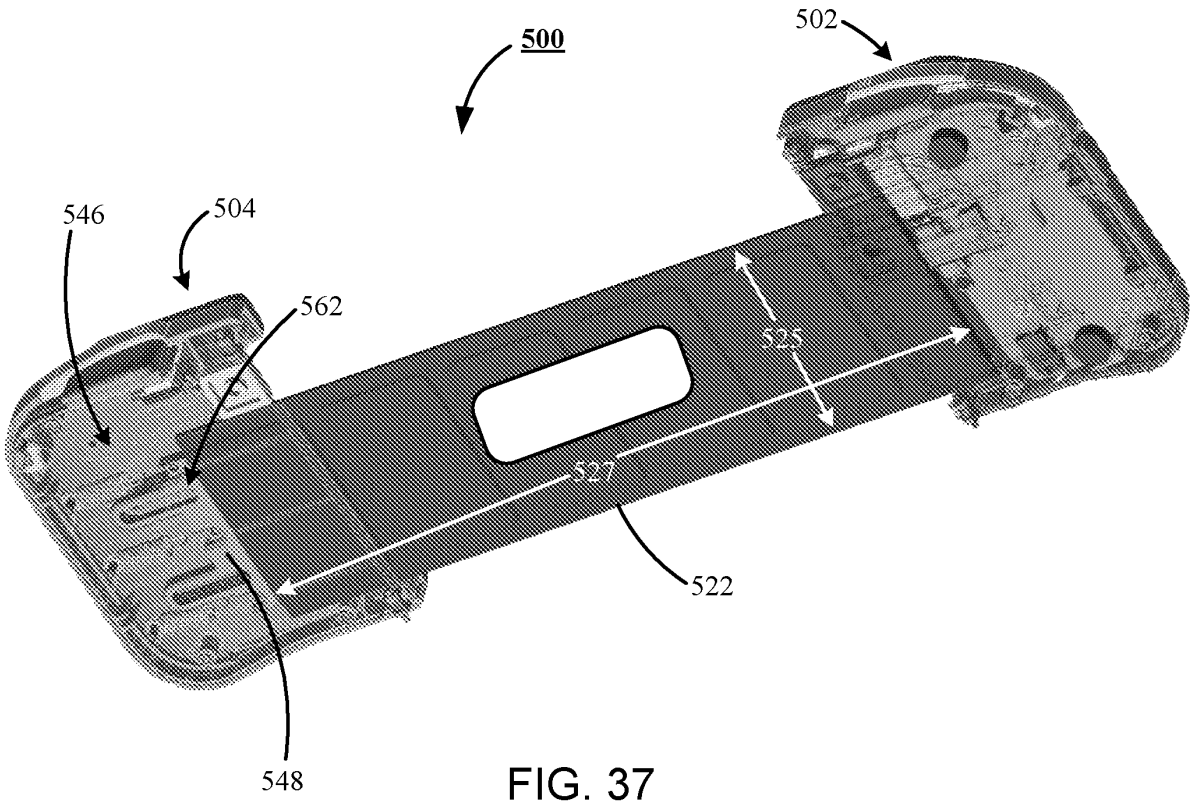


FIG. 37

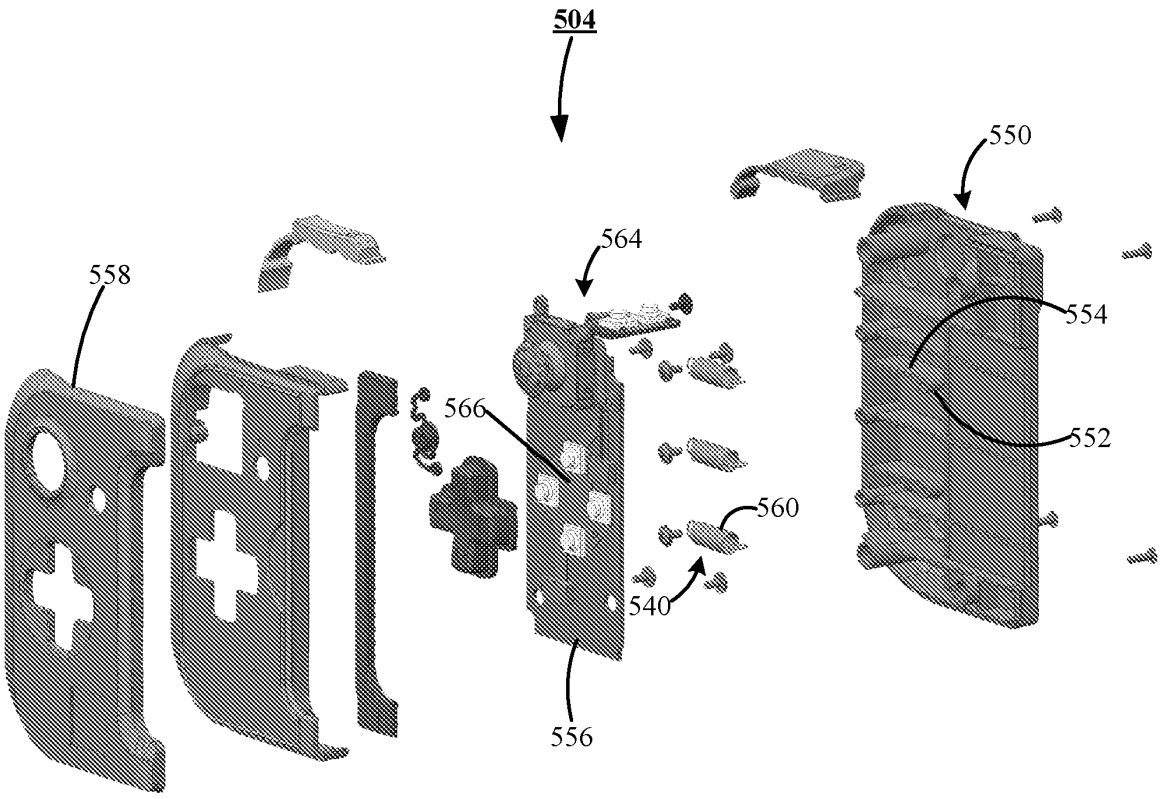


FIG. 38

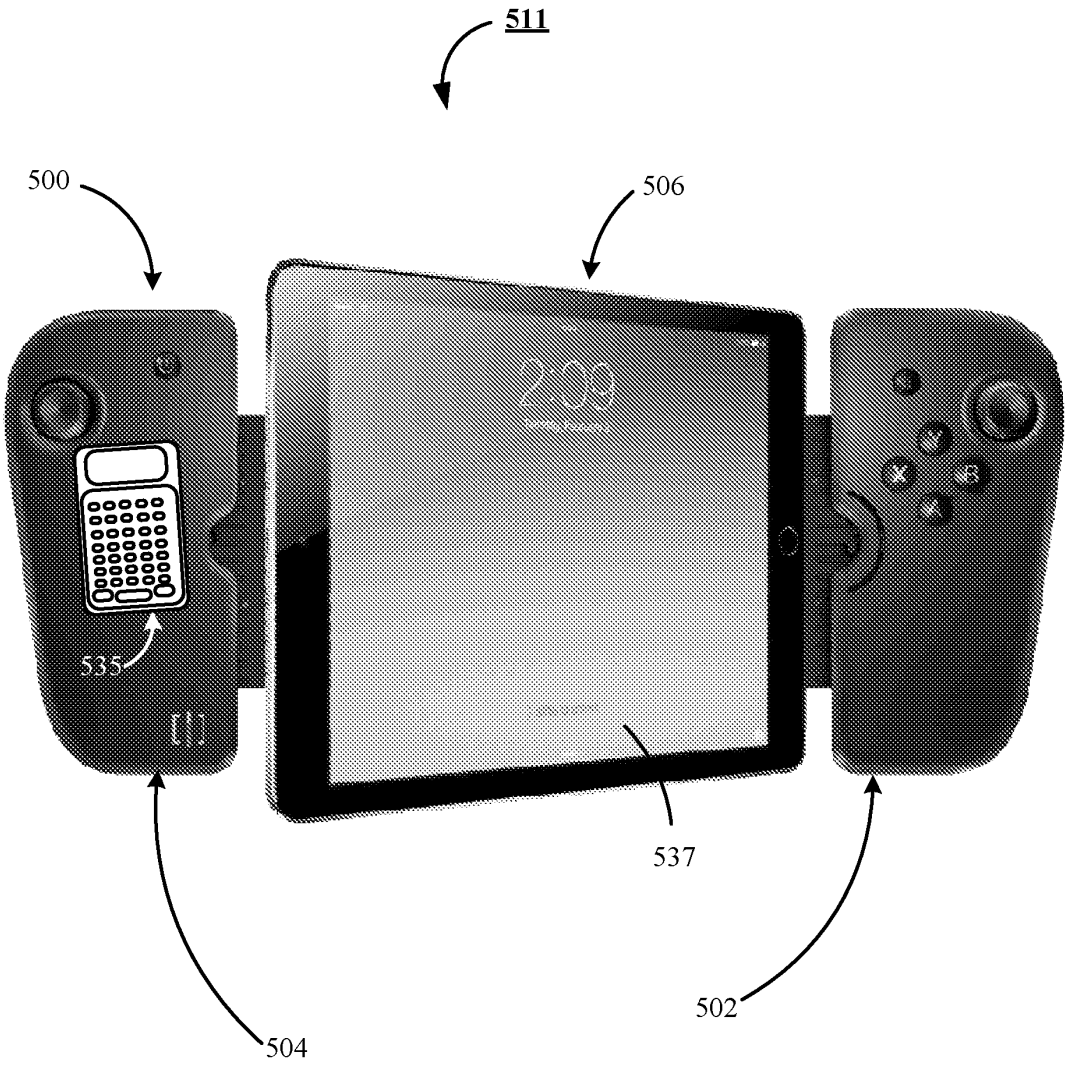


FIG. 39

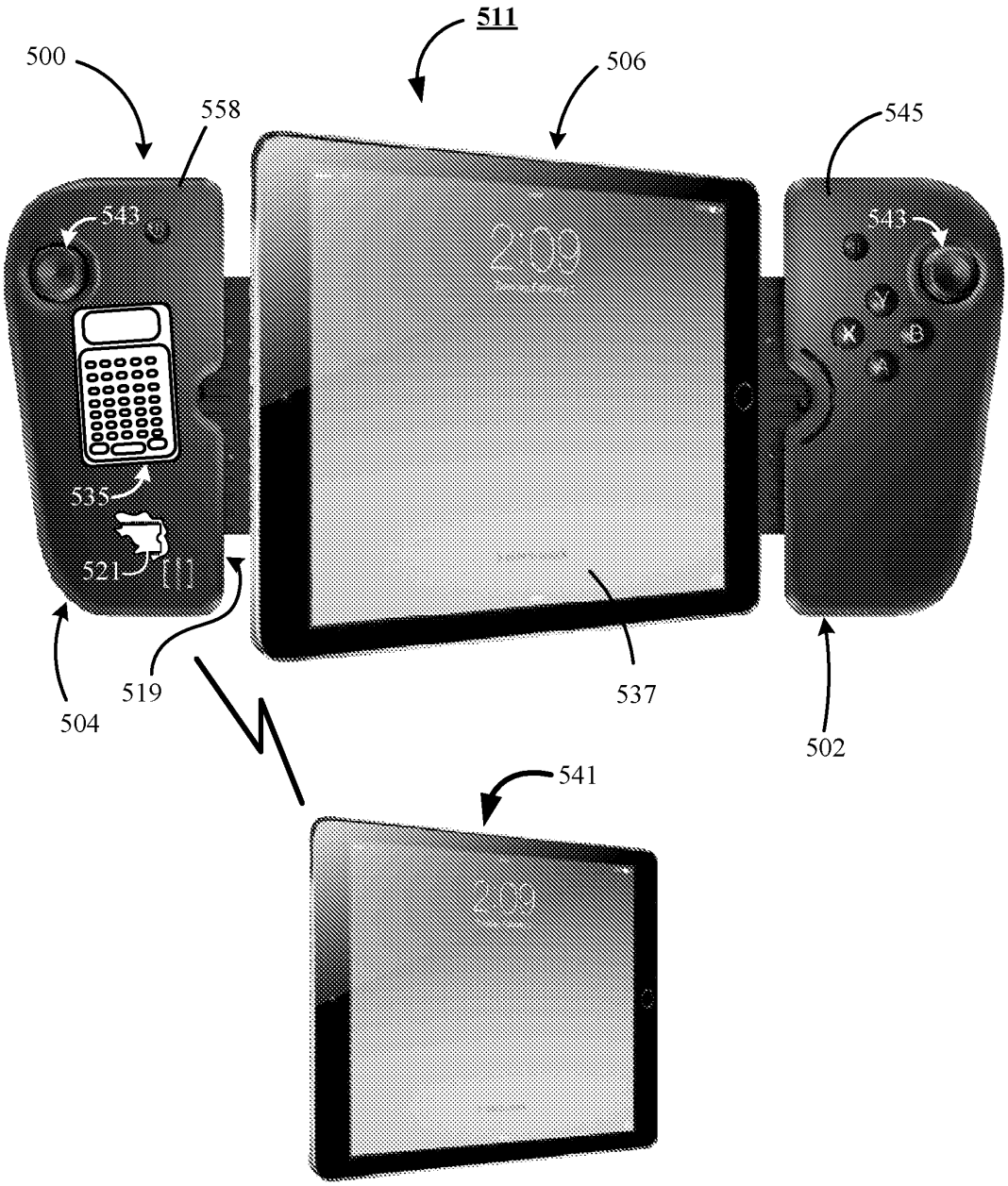


FIG. 40

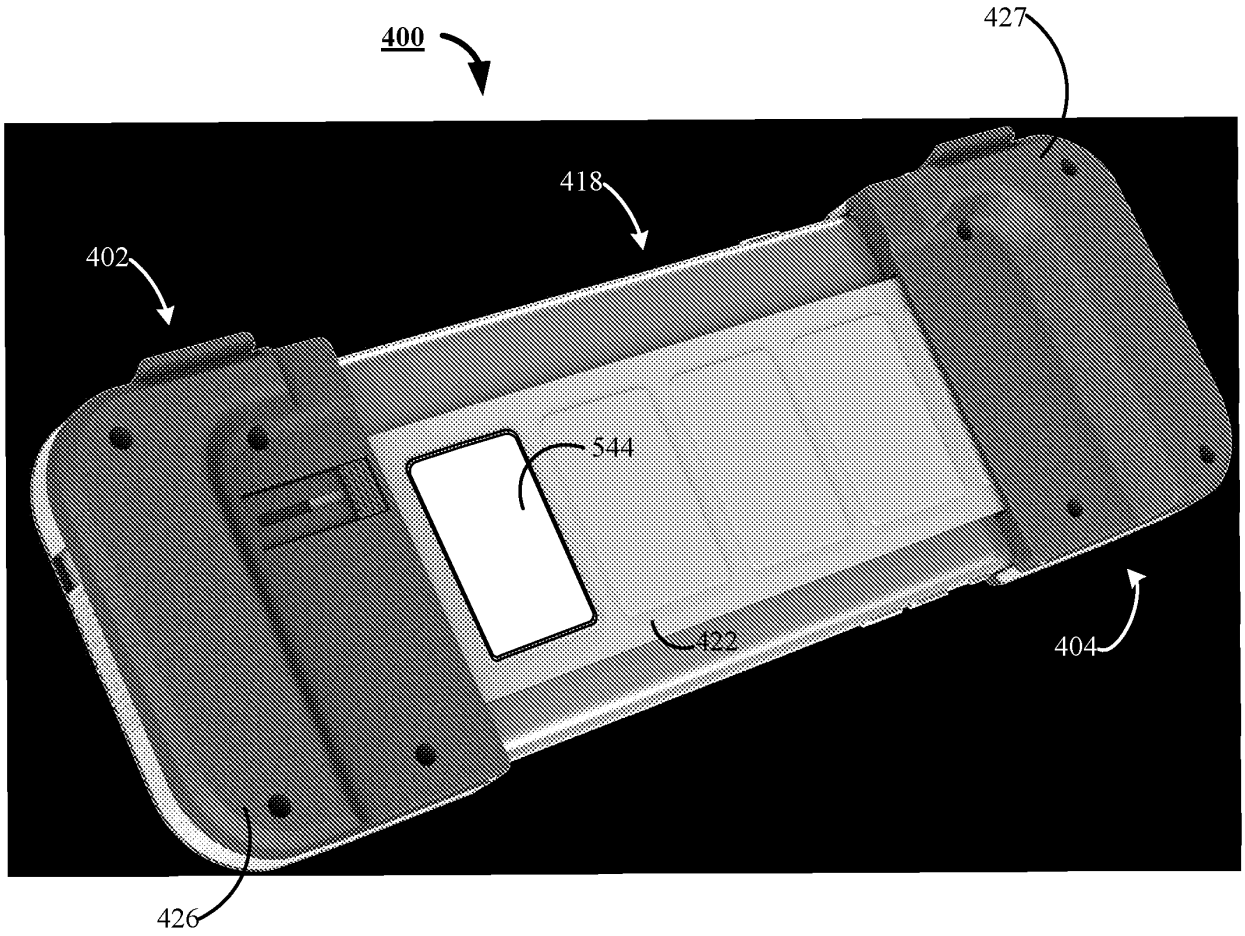


FIG. 41

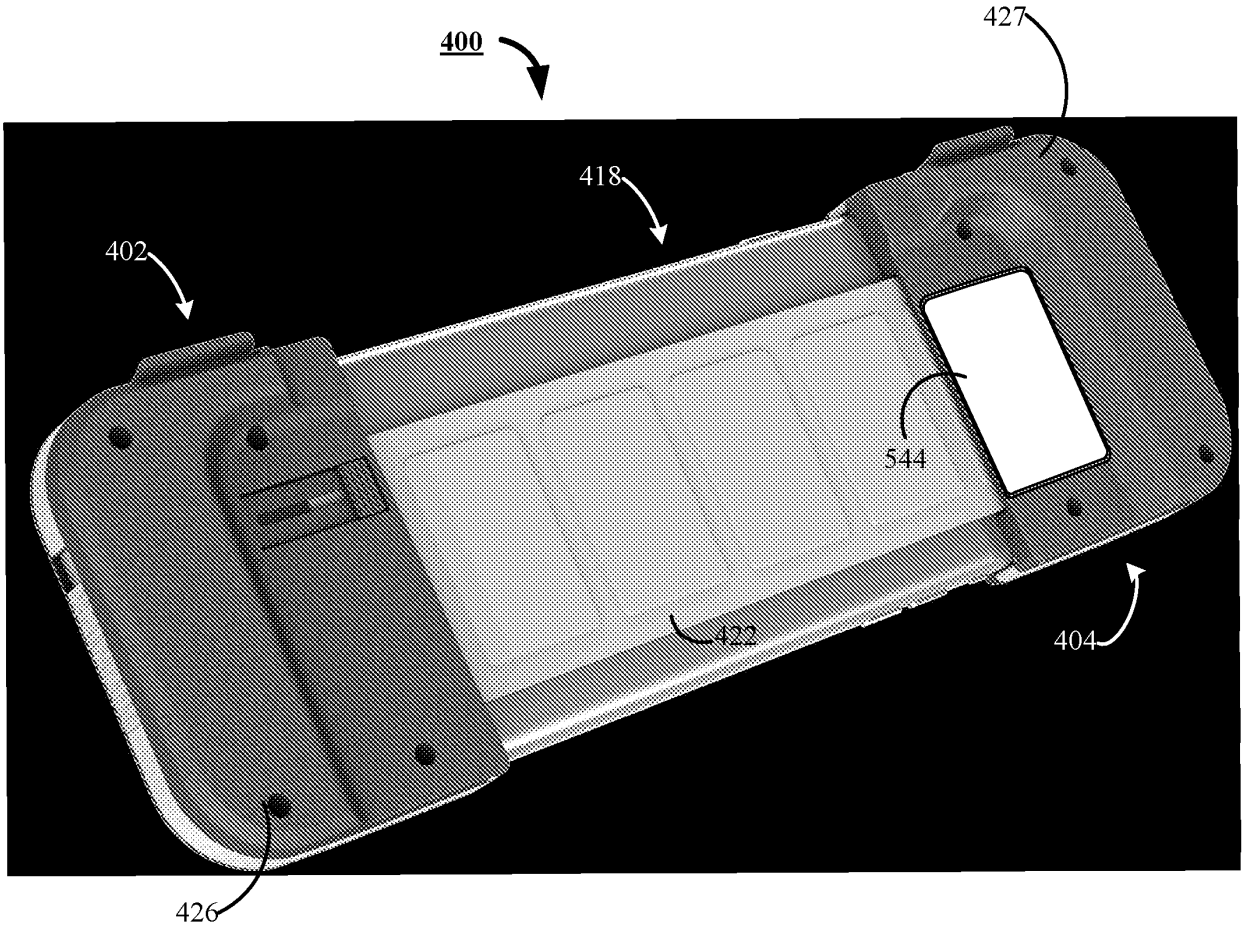


FIG. 42

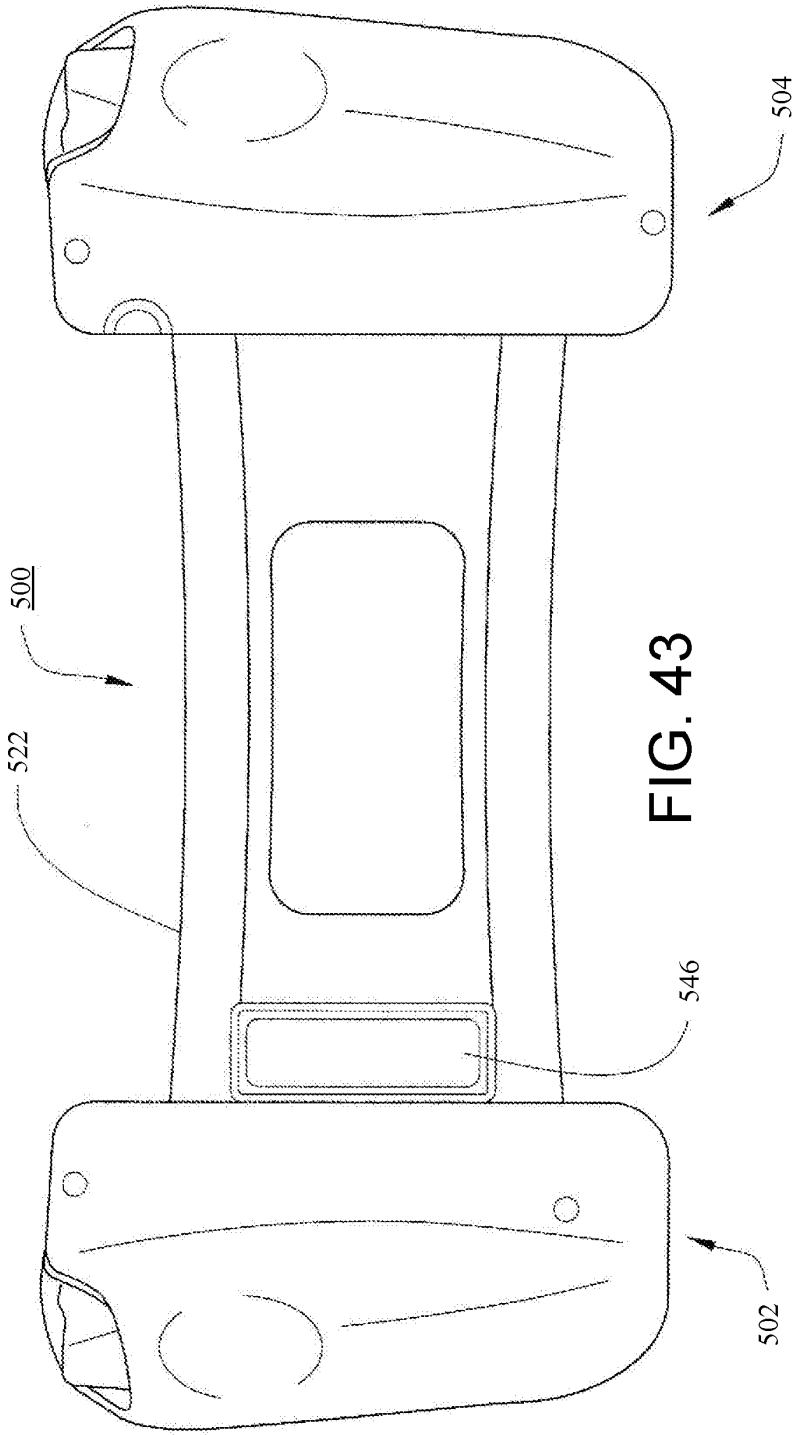


FIG. 43

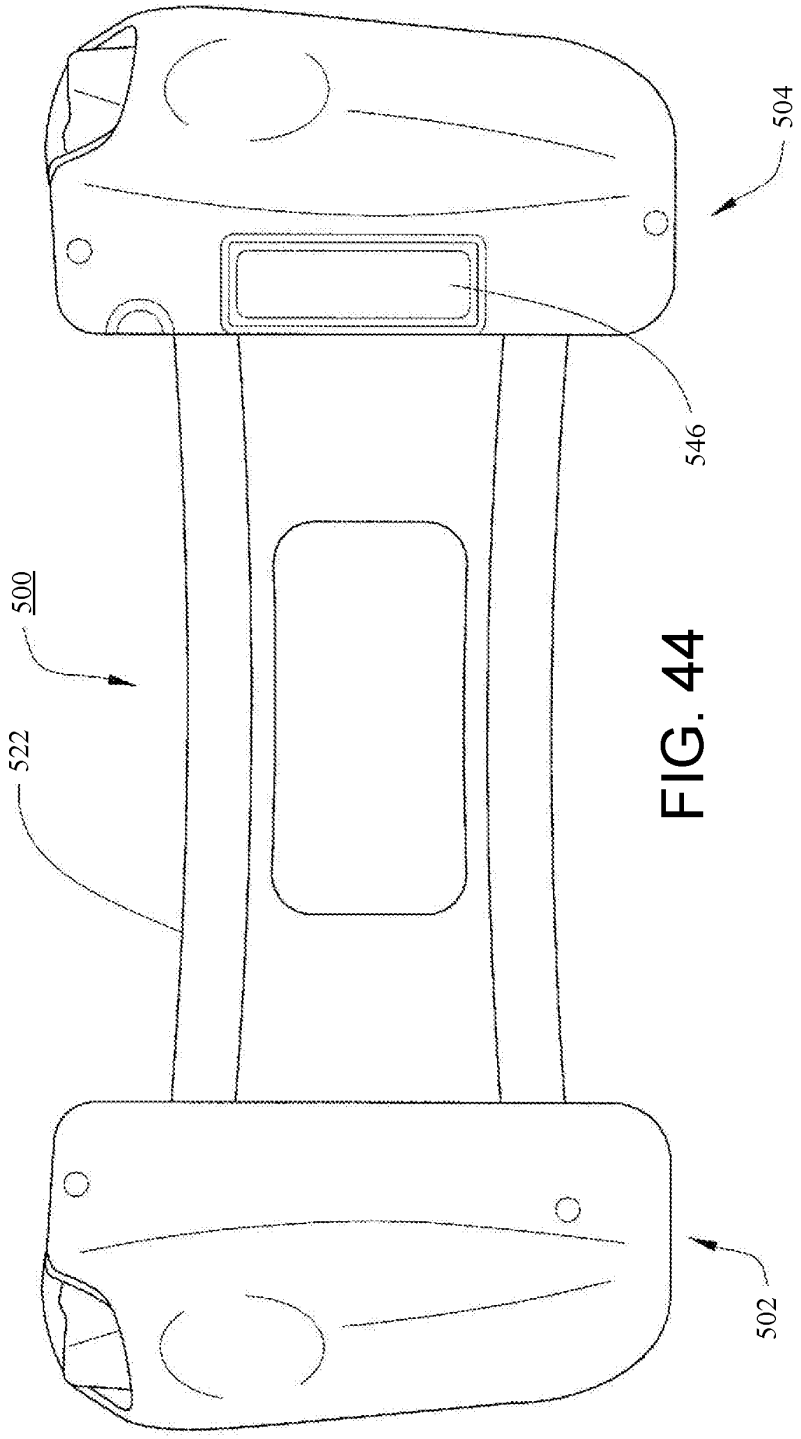


FIG. 44

COPY

COMBINED ASSIGNMENT-DECLARATION

Docket No. : OKC03723

WHEREAS, Fraser Townley of 247 Taylor Street, Pembroke, MA 02359 and Kelly D. Gamble of 653 Warrendale Ave., Simi Valley, CA 93065 is/are the inventor(s) of an invention entitled GAME CONTROLLER WITH FLEXIBLE BRIDGE SUPPORTING TOUCH SCREEN that is the subject matter of: (check all that apply)

☐ a provisional application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____;

☒ an application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. 15/457,571 filed on 03/13/2017 and/or executed on even date herewith: and

☐ an international application for Letters Patent filed pursuant to the Patent Cooperation Treaty which is identifiable in the United States Receiving Office by Application No. _____ filed on _____; and/or executed on even date herewith:

WHEREAS, Wikipad, Inc., a corporation organized and existing under the laws of the State of Delaware and the United States of America, and having offices at 685 Cochran Street, Suite 200, Simi Valley, California, 93065, USA, ("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, the applications, and any and all Letters Patent or similar foreign or domestic legal protection;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and I authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

I authorize the Assignee, its successors and assigns, to insert in this instrument the filing date(s) and application numbers when ascertained. I further authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all foreign countries and appoint Assignee the common representative in the above identified international application and any international application for the invention.

I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment specifically referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 406

Fraser Townley **(Inventor)**

May 10th, 2017
Date

Kelly D. Gamble **(Inventor)**

Date

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 407

Fraser Townley (Inventor)

Date

Kelly D. Gamble (Inventor)

5/10/2012
Date

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 408

COMBINED ASSIGNMENT-DECLARATION

Docket No. : OKC03962.1

WHEREAS, Daniel P. Dooley of 13009 Green Valley Drive, Oklahoma City, OK 73120 is the inventor of an invention entitled: GAME CONTROLLER WITH STRUCTURAL BRIDGE that is the subject matter of: (check all that apply)

☐ a provisional application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____;
☒ an application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. 15/858,299 filed on December 29, 2017 and/or executed on even date herewith: and
☐ an international application for Letters Patent filed pursuant to the Patent Cooperation Treaty which is identifiable in the United States Receiving Office by Application No. _____ filed on _____; and/or executed on even date herewith:

WHEREAS, Wikipad, Inc., a corporation organized and existing under the laws of the State of Delaware and the United States of America, and having offices at 685 Cochran Street, Suite 200, Simi Valley, CA 93065 USA, ("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, the applications, and any and all Letters Patent or similar foreign or domestic legal protection;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and I authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

I authorize the Assignee, its successors and assigns, to insert in this instrument the filing date(s) and application numbers when ascertained. I further authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all foreign countries and appoint Assignee the common representative in the above identified international application and any international application for the invention.

I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. I hereby state that I have reviewed and understand the contents of the above identified application, including the claims, as amended by any amendment specifically referred to above. I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 409

Daniel P. Dooley

Daniel P. Dooley

3-26-2018

Date

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 410

DocCode – SCORE

SCORE Placeholder Sheet for IFW Content

Application Number: 16230186 Document Date: 12/21/2018

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

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- USPTO employees may access SCORE content via eDAN using the Supplemental Content tab, or via the SCORE web page.
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Form Revision Date: August 26, 2013

505250564 12/21/2018

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT5297345

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
FRASER TOWNLEY	05/10/2017
KELLY GAMBLE	05/10/2017
DANIEL P. DOOLEY	03/26/2018

RECEIVING PARTY DATA

Name:	WIKIPAD, INC.
Street Address:	685 COCHRAN STREET
Internal Address:	SUITE 200
City:	SIMI VALLEY
State/Country:	CALIFORNIA
Postal Code:	93065

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	16230186

CORRESPONDENCE DATA

Fax Number: (405)553-2855

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 405-553-2828
Email: okcipdocketing@hallestill.com
Correspondent Name: HALL ESTILL ATTORNEYS AT LAW
Address Line 1: 100 NORTH BROADWAY
Address Line 2: SUITE 2900
Address Line 4: OKLAHOMA CITY, OKLAHOMA 73102-8820

ATTORNEY DOCKET NUMBER:	OKC03962.2
NAME OF SUBMITTER:	DANIEL P. DOOLEY
SIGNATURE:	/Daniel P. Dooley/
DATE SIGNED:	12/21/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 5

source=Assignment#page1.tif
source=Assignment#page2.tif
source=Assignment#page3.tif
source=Assignment#page4.tif
source=Assignment#page5.tif

COPY

COMBINED ASSIGNMENT-DECLARATION

Docket No. : OKC03723

WHEREAS, Fraser Townley of 247 Taylor Street, Pembroke, MA 02359 and Kelly D. Gamble of 653 Warrendale Ave., Simi Valley, CA 93065 is/are the inventor(s) of an invention entitled GAME CONTROLLER WITH FLEXIBLE BRIDGE SUPPORTING TOUCH SCREEN that is the subject matter of: (check all that apply)

☐ a provisional application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. _____ filed on _____;

☒ an application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. 15/457,571 filed on 03/13/2017 and/or executed on even date herewith: and

☐ an international application for Letters Patent filed pursuant to the Patent Cooperation Treaty which is identifiable in the United States Receiving Office by Application No. _____ filed on _____; and/or executed on even date herewith:

WHEREAS, Wikipad, Inc., a corporation organized and existing under the laws of the State of Delaware and the United States of America, and having offices at 685 Cochran Street, Suite 200, Simi Valley, California, 93065, USA, ("Assignee") is desirous of acquiring the entire right, title and interest in and to the invention, the applications, and any and all Letters Patent or similar foreign or domestic legal protection;

NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and I authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

I authorize the Assignee, its successors and assigns, to insert in this instrument the filing date(s) and application numbers when ascertained. I further authorize the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection, in its own name if desired, in any and all foreign countries and appoint Assignee the common representative in the above identified international application and any international application for the invention.

I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 414

Fraser Townley **(Inventor)**

May 10th, 2017
Date

Kelly D. Gamble **(Inventor)**

Date

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 415

Fraser Townley (Inventor)

Date

Kelly D. Gamble (Inventor)

5/10/2012
Date

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 416

COMBINED ASSIGNMENT-DECLARATION

Docket No. : OKC03962.1

WHEREAS, Daniel P. Dooley of 13009 Green Valley Drive, Oklahoma City, OK 73120 is the inventor of an invention entitled: GAME CONTROLLER WITH STRUCTURAL BRIDGE that is the subject matter of: (check all that apply)

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☒ an application for Letters Patent which is identifiable in the United States Patent and Trademark Office by Application No. 15/858,299 filed on December 29, 2017 and/or executed on even date herewith: and
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NOW, THEREFORE, for good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, I transfer to Assignee, its successors and assigns, my entire right, title and interest in and to the invention, the above-identified applications, all provisional applications from which any of the above-identified applications claim priority, corresponding domestic and foreign applications, any continuation, division, renewal, or substitute for the applications, all Letters Patent, any reissue, re-examination, or similar legal protection issuing related to the Letters Patent, and all rights and benefits under any applicable treaty or convention; and I authorize the Director of the United States Patent and Trademark Office or foreign equivalent to issue the Letters Patent or similar legal protection to the Assignee.

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I represent to the Assignee, its successors and assigns, that I have not and shall not execute any writing or do any act whatsoever conflicting with this Assignment. I, my executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute and deliver to Assignee or its legal representatives such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing the Letters Patent or similar legal protection on the invention in any and all countries, including without limitation providing testimony in any related interference, litigation or proceeding.

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Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 417

Daniel P. Dooley

Daniel P. Dooley

3-26-2018

Date

Petitioners NINTENDO CO., LTD., et al.,
Ex. 1009, IPR2023-00643, Pg. 418