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e-filing

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

BZ

ASUS COMPUTER INTERNATIONAL, a California Corporation; and ASUSTEK COMPUTER INC, a Taiwanese Corporation,

Plaintiff,

v.

DENNIS W. NUSSER, an individual,

Defendants.

CASE NO.: CV 10 4270

COMPLAINT FOR DECLARATORY JUDGMENT

DEMAND FOR JURY TRIAL

Plaintiffs Asus Computer International ("ACI") and ASUSTeK Computer Inc. ("ASUSTeK"), for its Complaint against Defendant Dennis W. Nusser ("Mr. Nusser"), upon personal knowledge as to its own actions and upon information and belief as to actions by others, hereby alleges as follows:

NATURE OF THE ACTION

1. This is an action for declaratory judgment of non-infringement and invalidity of United States Patent Nos. 5,531,529 ("the '529 Patent"), 7,101,101 ("the '101 Patent"), and 7,354,209 ("the '209 Patent") (collectively, "the Patents").

THE PARTIES

2. Plaintiff ACI is a corporation organized and existing under the laws of California, with its principle place of business at 800 Corporate Way, Fremont, CA 94539.

3. Plaintiff ASUSTeK is a corporation organized and existing under the laws of Taiwan, with its principal place of business located at 15, Li-Te Road, Peitou, Taipei 112, Taiwan.

4. On information and belief, Mr. Nusser is an individual residing at 512 N. Victoria Terrace, Fort Lauderdale, FL 33301. Mr. Nusser purports to be the inventor and owner of the '101 patent, the '529 patent, and the '209 patent.

JURISDICTION AND VENUE

5. This action arises under the Declaratory Judgment Act, 28 U.S.C. §§ 2201 *et seq.*, and under the patent laws of the United States, Title 35 of the United States Code. This Court has jurisdiction over this action pursuant to 35 US.C. § 282 and 28 U.S.C. §§ 1331, 1338(a), and 2201-2202.

6. Venue is proper in this District under 28 U.S.C. §§ 1391 and 1400(b) because a substantial part of the events giving rise to the claims at issue occurred in this District.

7. This Court has personal jurisdiction over Mr. Nusser by virtue of the business activities, patent enforcement efforts, and other activities it has conducted within the State of California and within this District, resulting in sufficient minimum contacts with this forum.

INTRADISTRICT ASSIGNMENT

8. This case is an Intellectual Property Action under Civil Local Rule 3-5(c) and shall be assigned on a district-wide basis.

FACTUAL BACKGROUND

9. The '529 Patent is titled "Input Apparatus Scaled for Non-Adults and Adults Having Small Hands" and it issued on July 2, 1996 from an application filed on January 26, 1995. On information and belief, Mr. Nusser is the sole inventor and owner of the '529 Patent. A true and correct copy of the '529 Patent is attached as Exhibit A.

10. The '101 Patent is titled "Input Apparatus for People Having Small hands" and it issued on September 5, 2006 from an application filed on August 31, 1994. On information and belief, Mr. Nusser is the sole inventor and owner of the '101 Patent. A true and correct copy of the '101 Patent is attached as Exhibit B.

11. The '209 Patent is titled "Input Apparatus for People Having Small Hands" and it issued on April 8, 2008 from an application filed on July 28, 2006. On information and belief, Mr. Nusser is the sole inventor and owner of the '209 Patent. A true and correct copy of the '209 Patent is attached as Exhibit C.

12. In March of 2008, ACI received a letter from Mr. Nusser saying that he owned the '101 and '529 patents. In that letter, he said that the ASUS Eee 701 and Eee 900 notebook computers "fall within one or more claims of my patents." A true and correct copy of this letter is attached as Exhibit D.

13. Between the spring of 2008 and the fall of 2010, ACI, ASUSTeK, Mr. Nusser, and Mr. Nusser's attorney communicated by telephone and email regarding Mr.

Nusser's allegations that Asus computers infringe Mr. Nusser's patents, and about the invalidity of those patents.

14. On September 21, 2010 Jacky Lu of ASUSTeK received an email from Peter Herman, counsel to Mr. Nusser. In that email, which was part of a long email string, Mr. Herman states "we have not heard from you, therefore, at this point we must move forward to pursue a lawsuit" and "we are in the process of preparing the complaint." A true and correct copy of this email string is attached as Exhibit E.

COUNT I
(Declaratory Judgment of Non-Infringement and/or Invalidity of the '529 Patent)

15. ASUS re-alleges and incorporates by reference Paragraphs 1 through 14 as if fully set forth herein.

16. As a result of the acts described in the foregoing paragraphs, there exists a substantial controversy of sufficient immediacy and reality to warrant the issuance of a declaratory judgment.

17. An actual and justiciable controversy exists between ASUS and Mr. Nusser as to whether the '529 patent is infringed by ASUS and/or its customers. A judicial declaration is necessary and appropriate so that ASUS may ascertain its rights regarding the Patents.

18. An actual and justiciable controversy exists between ASUS and Mr. Nusser as to whether the '529 patent is valid. A judicial declaration is necessary and appropriate so that ASUS may ascertain its rights regarding the Patents.

COUNT II
(Declaratory Judgment of Non-Infringement and/or Invalidity of the '101 Patent)

19. ASUS re-alleges and incorporates by reference Paragraphs 1 through 18 as if fully set forth herein.

20. As a result of the acts described in the foregoing paragraphs, there exists a substantial controversy of sufficient immediacy and reality to warrant the issuance of a declaratory judgment.

21. An actual and justiciable controversy exists between ASUS and Mr. Nusser as to whether the '101 patent is infringed by ASUS and/or its customers. A judicial declaration is necessary and appropriate so that ASUS may ascertain its rights regarding the Patents.

22. An actual and justiciable controversy exists between ASUS and Mr. Nusser as to whether the '101 patent is valid. A judicial declaration is necessary and appropriate so that ASUS may ascertain its rights regarding the Patents.

COUNT III
(Declaratory Judgment of Non-Infringement and/or Invalidity of the '209 Patent)

23. ASUS re-alleges and incorporates by reference Paragraphs 1 through 22 as if fully set forth herein.

24. As a result of the acts described in the foregoing paragraphs, there exists a substantial controversy of sufficient immediacy and reality to warrant the issuance of a declaratory judgment.

25. An actual and justiciable controversy exists between ASUS and Mr. Nusser as to whether the '209 patent is infringed by ASUS and/or its customers. A judicial declaration is necessary and appropriate so that ASUS may ascertain its rights regarding the Patents.

26. An actual and justiciable controversy exists between ASUS and Mr. Nusser as to whether the '209 patent is valid. A judicial declaration is necessary and appropriate so that ASUS may ascertain its rights regarding the Patents.

PRAYER FOR RELIEF

27. WHEREFORE, ASUS respectfully requests that judgment be entered in its favor and prays that the court grant the following relief:

A. A declaration that ASUS's products have not infringed and do not infringe, either directly or indirectly, any valid and enforceable claim of the Patents;

B. A declaration that the claims of the Patents are invalid;

C. An order enjoining Mr. Nusser or his agents, counsel, servants, employees, or all persons in active concert or participation therewith, from charging infringement of, or instituting any action of infringement of, the Patents against ASUS and/or any of ASUS's customers;

D. An order declaring that ASUS is the prevailing party and that this is an exceptional case under 25 U.S.C. § 285, and an award of its reasonable attorneys' fees, expenses, and costs in this action; and

E. Such other further relief as this Court may deem just and proper.

DEMAND FOR A JURY TRIAL

28. Pursuant to Federal Rule of Civil Procedure 38(b) and Northern District of California Rule 3-6(a), ASUS respectfully requests a jury trial on all issues so triable.

Dated: September 21, 2010

Respectfully submitted,

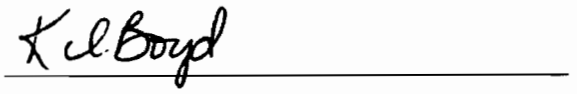

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Exhibit A

US005531529A

United States Patent [19]

Nusser

[11] Patent Number: 5,531,529

[45] Date of Patent: Jul. 2, 1996

[54] **INPUT APPARATUS SCALED FOR NON-ADULTS AND ADULTS HAVING SMALL HANDS**

[76] Inventor: **Dennis W. Nusser**, 512 N. Victoria Terrace, Fort Lauderdale, Fla. 33301

[21] Appl. No.: **378,946**

[22] Filed: **Jan. 26, 1995**

Related U.S. Application Data

[63] Continuation of Ser. No. 117,418, Sep. 7, 1993.

[51] **Int. Cl.**[6] **B41J 5/12**

[52] **U.S. Cl.** **400/472**; 400/682

[58] **Field of Search** 400/472, 682; 341/21, 22

[56] **References Cited**

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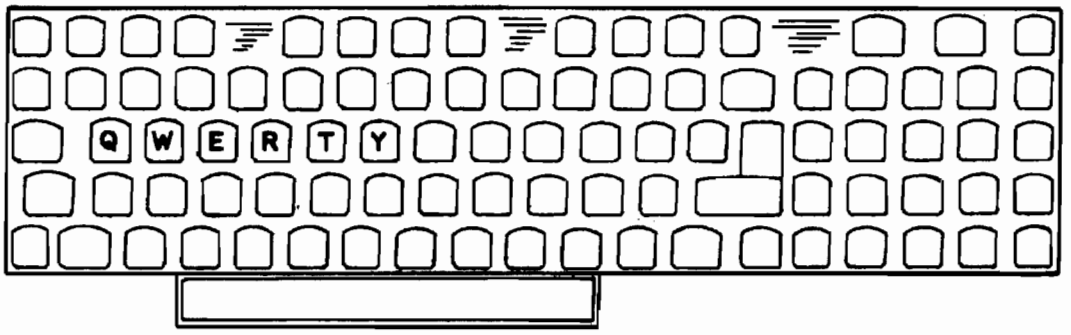
Primary Examiner—Edgar S. Burr
Assistant Examiner—Anthony Nguyen

[57] **ABSTRACT**

Input apparatus scaled for non-adult humans and adult humans having small hands. The input apparatus are especially well suited for use as computer keyboards for use by schoolchildren. Also disclosed is a computing system including the input apparatus.

8 Claims, 1 Drawing Sheet



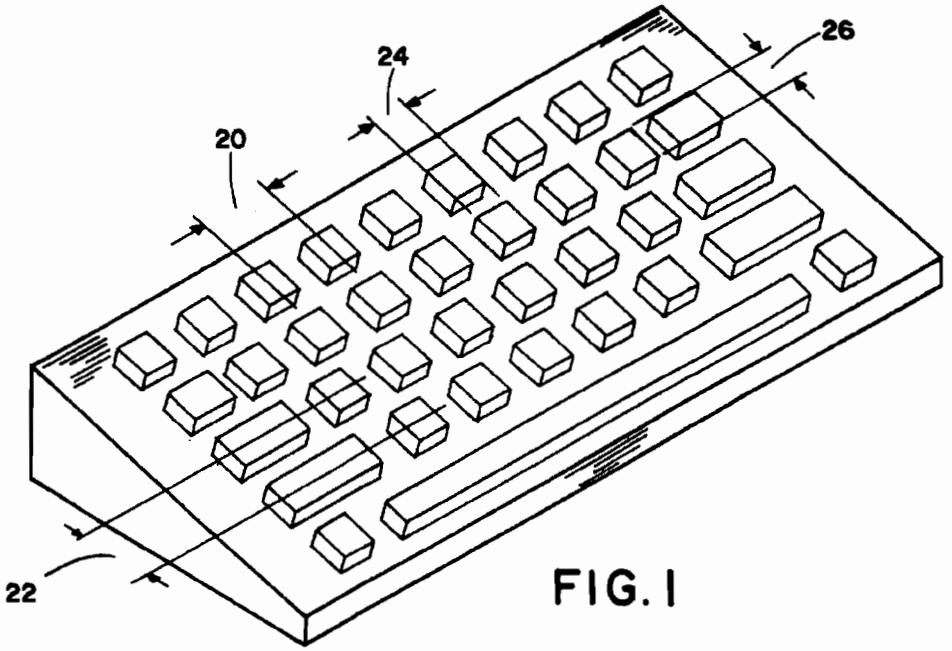


FIG. 1

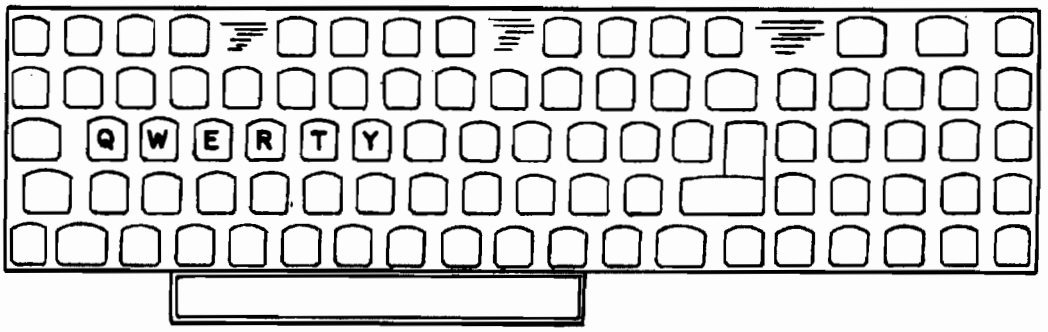


FIG. 2

INPUT APPARATUS SCALED FOR NON-ADULTS AND ADULTS HAVING SMALL HANDS

This application is a continuation of application Ser. No. 08,117,418 filed on Sep. 7, 1993.

BACKGROUND OF THE INVENTION

1. Field of Invention

This invention relates to input apparatus which can be used for computer, typewriter and other similar applications. It is particularly applicable where the user is a non-adult or a human with smaller than adult-sized hands. The keyboard provides fixed smaller than standard spacing to permit children as young as pre-kindergarten to use it as a touch typist. This invention relates to input apparatus and method of use and particularly to a keyboard used as an input device that is scaled to the size of the hands of non-adults and adults having small hands.

2. Description of Prior Art

Previous input apparatus such as computer keyboards and typewriters utilize a specific key spacing that has evolved into a standard. The original qwerty key arrangement is the current accepted standard for keyboard character locations. Other letter layouts such as the Dvork keyboard were developed.

Keyboard standards as to key size and spacing were published Feb. 4, 1989 as American National Standards Institute (ANSI)/Human Factors Society (HFS) Standard No. 100-1988. The Purpose of this standard is stated as "This is a technical standard that specifies conditions that have been established as representing acceptable implementation of human factors engineering principles and practices in the design of visual display terminals (VDTs), associated furniture, and the office environment in which they are placed. Human factors engineering principles and practices are highly application dependent. This technical standard is written for those VDT applications described as text processing, data entry, and data inquiry."

The key spacing described in ANSI/HFS 100 is that the center line distance between the horizontal keys shall be between 18 and 19 mm and the center line distance between the vertical keys shall be between 18 and 21 mm.

Historically in the art the various inventions of input apparatus are based upon the ANSI/HFS 100 standard which is a result of the evolution of the various input apparatus. It is seen that these various input apparatus are attached to various machines such as typewriters and computers. Historically the input apparatus were Designed for the use by adult humans. The training of an individual in the use of these various input apparatus began at the high school level. These high school users were typically 16 years old or older. At this age their hand lengths fall in the 5th percentile of an adult male's hands, meaning they are then suited to using the devices currently provided. The 5th percentile is a size that results from surveying a group of adult males and calculating the frequency in which various sizes occur. The 5th percentile is a number that one would expect 5% of adult males to resemble, on the shorter end of the scale. For example, the 5th percentile of adult males in one study had a hand length of 17.8 cm. The 95th percentile in this study had a hand length of 20.5 cm.

With the advent of the microcomputer there has been an increasing number of children and other than adult scale humans that use various input apparatus. It would be desirable to have an input apparatus which would accomodate their physical sizes, especially their hands in relation to the input apparatus. These users currently in some instances cannot perform routine keystrokes on their input apparatus due to the size and spacing of the keys. A simple, often utilized, command such as control-alternate-delete cannot be easily performed by users with small scaled hands using the devices currently provided.

SUMMARY OF INVENTION

The present invention overcomes the aforementioned disadvantages and provides input apparatus such as keyboards that permit humans with smaller than adult sized hands, such as children, that are sized to fit the smaller than adult-dimensioned hands. This invention fills the ergonomic and anthropometric needs of non-adult students by providing input apparates scaled to the size of the user's hands.

Studying the hand lengths of youths aged 4 through 16 and comparing these lengths with the 5th percentile lengths of an adult male indicates that at age 4 the children's hands are 61% of the adult, at age six 67.4%, at age eight 74.5% through age sixteen, 93%. These ranges indicate the needs for input devices of varying size.

The prior art addresses the application of input apparatus in the adult work environment. My invention is the first to suggest a fixed size input apparatus designed specifically for children and others with smaller than adult scale hands that are currently being accomodated with the existing prior art.

The ergonomic and anthropometric advantages to my invention apparently are not obvious to those skilled in the art since the input apparatus known as a fixed key computer keyboard exists only in the scale intended for adult usage. The same applies to typewriter keyboards and other input apparatus. The invention of micro computers resulted in the introduction of adult sized input apparatus to the smaller scale users.

Since touch typing is now being taught in the third grade of elementary schools, input apparatus designed for the scale of these and other non-adult students and users should be viewed as a benefit in allowing the users to be properly accomodated and therefore increase learning ability and keyboard proficiency, as well as avoid potential repetitive strain problems that might arise from using an improperly sized input apparatus.

The invention can also be used as a computing system comprised of a central processing unit, a visual display terminal, and a keyboard. This system can be comprised of separate elements or all elements within the same enclosure.

BRIEF DESCRIPTION OF THE FIGURES

FIG. **1** shows a view of a fixed key input apparatus.

FIG. **2** shows an example of a fixed key input apparatus of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

An embodiment of the present invention is shown in FIG. **1**.

With reference to FIG. **1**, the centerline horizontal distance of the keys is **20**. **20** can be 10.8 mm to 16.4 mm (0.425 inch and 0.646 inch). Preferable distances are 12.0 mm, 13.5 mm, and 14.5 mm for three different sizes based upon age and hand length. Other preferable distances are

12.75 mm and 14.15 mm for two different sizes based upon age and hand length.

The centerline vertical distance of the keys is **22**. **22** can be 10.8 mm to 18.0 mm (0.425 inch and 0.711 inch). Preferable distances are 12.7 mm., 14.3 mm, and 15.6 mm for three different sizes based upon age and hand length. Other preferable distances are 13.45 mm and 14.9 mm for two different sizes based upon age and hand length.

Spacing for three different sizes is 65%, 73%, and 80% of the average spacing size used in the art. Spacing for two different sizes is 69% and 76.5% of the average spacing size used in the art.

The width of an individual key surface is **24**. **24** can be 7.2 mm to 13 mm. Preferable distances are those that match the range selected for **20** and **22**.

The depth of an individual key surface is **26**. **26** can be 7.2 mm to 15 mm. Preferable distances are those that match the range selected for **20** and **22**.

As will be seen in the art, most input apparatus can include keys sized differently than **24** and **26**, including function keys, keypad keys, space bars, numeric keypads and the like; which would be ergonomically sized and spaced.

Other sizes within the ranges and other keyboard configurations can be accomodated as well. As will be obvious to those skilled in the art the invention also applies to typewriters and other input apparatus.

The keyboard may be produced by any technology known to the art such as U.S. Pat. Nos. 5,067,834, 5,122,786, 4,669,903, 4,661,005, and other conventional technologies known to those skilled in the art. As will be obvious to those skilled in the art the invention can be constructed as a keyboard comprised of the individual keys connecting to an electric or electronic matrix with a source of current allowing inputing electrical signals to a computer or other device. Also, ANSI/HFS 100 standards regarding other aspects of the keyboard may be utilized. Conventional keystroke travel can be used but it is preferred that the same 60% to 86% reduction used for key spacing also be used for keystroke travel, With different sizes available the user can progress from small to larger with growth.

While the above description contains many specificities, the reader should not construe these as limitation on the scope of the invention, but merely as exemplifications of preferred embodiments thereof. Those skilled in the art will envision many other possible variations within its scope. For example, skilled artisans have developed other keyboard types to address ergonomic needs of keyboard users by dividing the keyboard in half, changing the angle of the keys, etc. This invention is equally applicable to other adult-sized input apparatus in the art.

An embodiment of the input apparatus of the present invention is described in the following example:

EXAMPLE

A keyboard with the keys arranged in the manner known in the art as the "qwerty" key arrangement embodying in addition a row of 12 function keys arrayed horizontally directly above the horizontal numeric keys, a "10-key" keypad located to the right of the "qwetry" layout, cursor control keys, and various other keys as used in the art of a computer keyboard, the size and space of which is 73% of the keyboard described in the ANSI/HFS 100 standard. The overall footprint of the keyboard is 36 cm wide by 15 cm. in depth. The horizontal centerline key spacing, **20**, is 13.5 mm. The vertical centerline key spacing, **22**, is 14.235 mm. The key tops are, **24**, 9 mm wide and, **26**, 10 mm deep. The other keys are similarly scaled. The keyboard utilizes present art to provide a current response to the depression of each key or a combination of keys that is utilized by a central processing unit of a microcomputer, allowing the computer to display the information on a visual display unit.

I claim:

1. An ergonomic fixed key apparatus having keys for actuation by an operator for communicating to a processor, suitable for touch typing, said fixed key apparatus comprising:

a housing including a plurality of finger actuable keys, including alphanumeric keys, capable of being depressed through a keystroke travel range for generating desired inputs to be transmitted to the processor and arranged in substantially parallel rows to form an array;

wherein the horizontal key spacing of said alphanumeric keys is 60–86% of the range of 18 to 19 millimeters, centerline to centerline, the vertical key spacing of said alphanumeric keys is 60–86% of the range of 18 to 21 millimeters, centerline to centerline and the keystroke travel range of said alphanumeric keys is 60–86% of the range of 1.5 to 6.0 millimeters.

2. Fixed key input apparatus of claim **1** having individual key widths within the range of 7.2 mm to 13 mm.

3. Fixed key input apparatus of claim **1** having individual key depths within the range of 7.2 mm to 15 mm.

4. Fixed key input apparatus of claim **1** wherein the individual keys are arranged in a qwerty layout.

5. The ergonomic fixed key input apparatus of claim **1** wherein the percentage reduction for the horizontal and vertical key spacings is approximately equal.

6. The ergonomic fixed key input apparatus of claim **5** wherein the percentage reduction is 65% of the average for each range and the horizontal key spacing of said keys is 12.0 mm, centerline to centerline, and the vertical key spacing of said keys 12.7 mm.

7. The ergonomic fixed key input apparatus of claim **5** wherein the percentage reduction is 73% of the average for each range and the horizontal key spacing of said keys is 13.5 mm, centerline to centerline, and the vertical key spacing of said keys 14.3 mm.

8. The ergonomic fixed key input apparatus of claim **5** wherein the percentage reduction is 80% of the average for each range and the horizontal key spacing of said keys is 14.5 mm, centerline to centerline, and the vertical key spacing of said keys 15.6 mm.

* * * * *

Exhibit B

US007101101B2

(12) **United States Patent**
Nusser

(10) **Patent No.: US 7,101,101 B2**
(45) **Date of Patent: *Sep. 5, 2006**

(54) **INPUT APPARATUS FOR PEOPLE HAVING SMALL HANDS**

(76) Inventor: **Dennis W Nusser**, 512 Victoria Ter.. Ft. Lauderdale, FL (US) 33301

(*) Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154 (a)(2).

Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 1643 days.

(21) Appl. No.: **08/612,969**

(22) PCT Filed: **Aug. 31, 1994**

(86) PCT No.: **PCT/US94/09827**

§ 371 (c)(1),
(2), (4) Date: **Mar. 4, 1996**

(87) PCT Pub. No.: **WO95/07186**

PCT Pub. Date: **Mar. 16, 1995**

(65) **Prior Publication Data**

US 2003/0099496 A1 May 29, 2003

Related U.S. Application Data

(63) Continuation-in-part of application No. 08/378,946, filed on Jan. 26, 1995, now Pat. No. 5,531,529, which is a continuation of application No. 08/117,418, filed on Sep. 7, 1993, now abandoned.

(51) **Int. Cl.**
B41J 5/12 (2006.01)

(52) **U.S. Cl.** **400/472**; 400/682

(58) **Field of Classification Search** 400/472, 400/682, 481, 485–489; 341/22, 21; 340/365; 361/680
See application file for complete search history.

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5,531,529	A *	7/1996	Nusser	400/472

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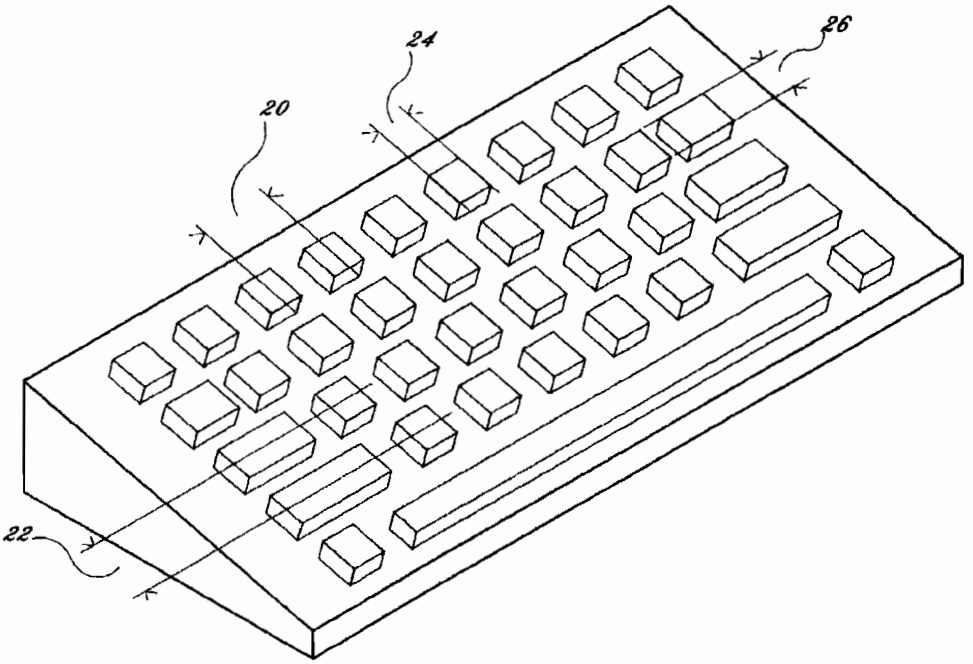
Primary Examiner—Anthony H. Nguyen
(74) *Attorney, Agent, or Firm*—Kilpatrick Stockton LLP

(57) **ABSTRACT**

Input apparatus scaled for non-adult humans and adult humans having small hands. The input apparatus are especially well suited for use as computer keyboards for use by schoolchildren. Also disclosed is a computing system including the input apparatus.

24 Claims, 3 Drawing Sheets



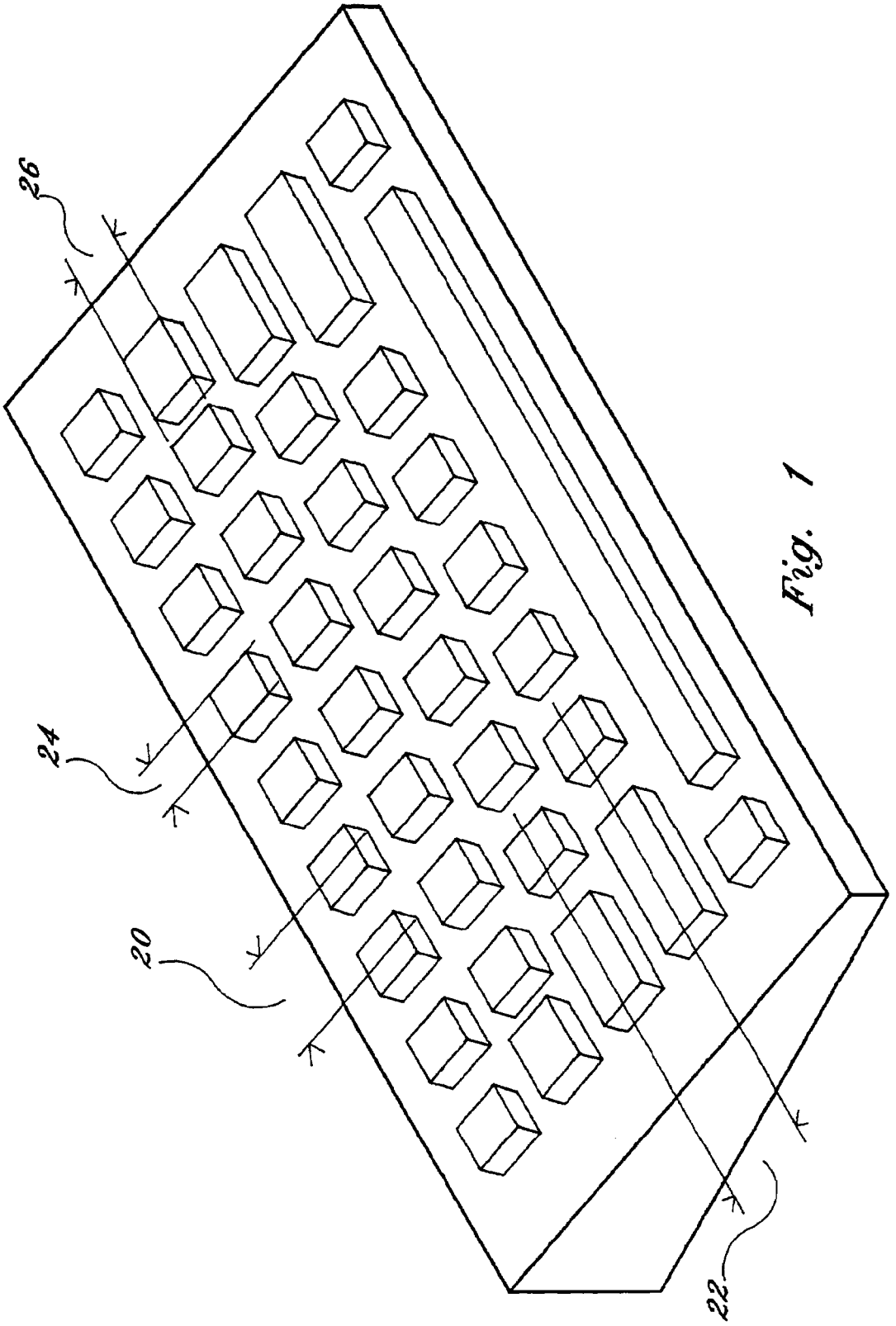


Fig. 1

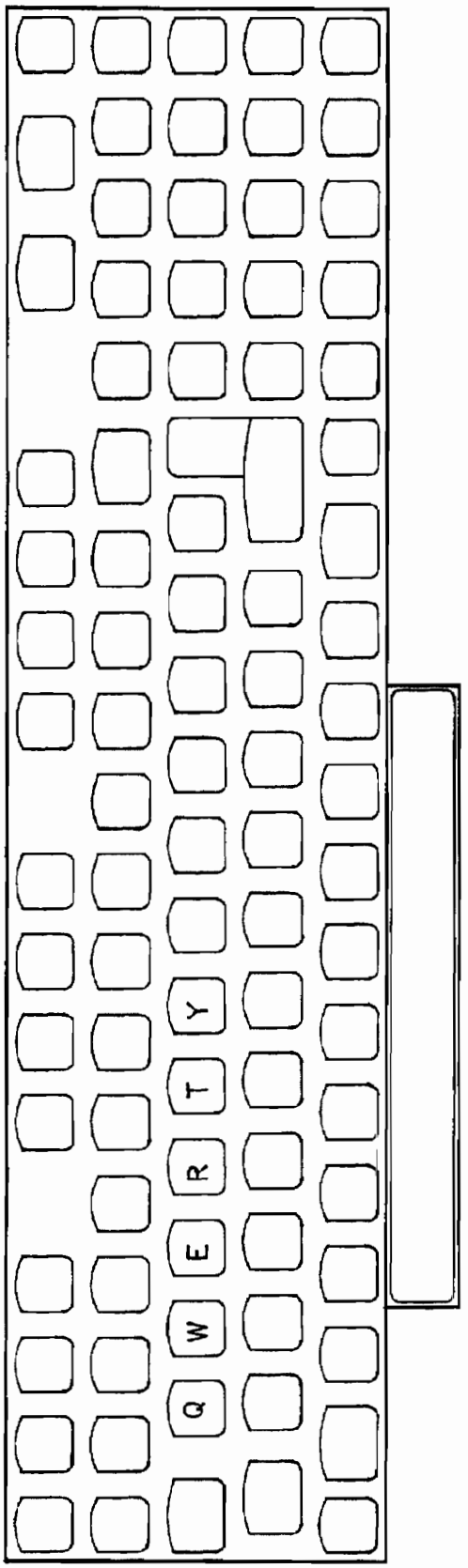
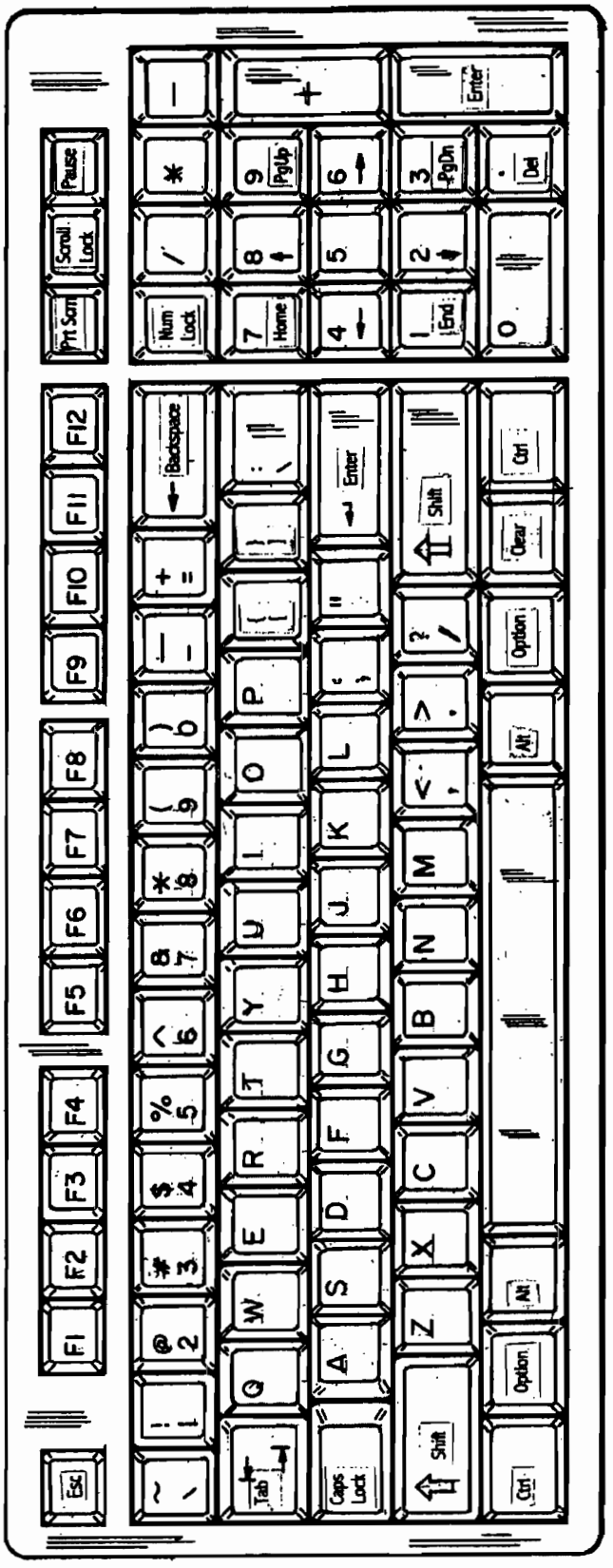


Fig. 2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Num Lock
Backspace
Tab
Caps Lock
Enter
Shift
Ctrl
Option
Alt
Del
PgUp
PgDn
Home
End

FIG. 3

INPUT APPARATUS FOR PEOPLE HAVING SMALL HANDS

This application is a continuation-in-part of U.S. patent application Ser. No. 08/378,946, filed Jan. 26, 1995, now U.S. Pat. No. 5,531,529 which is a continuation of U.S. patent application Ser. No. 08/117,418, filed Sep. 7, 1993, now abandoned.

BACKGROUND

1. Field of the Invention

This invention relates to input apparatus, such as a keyboard, which can be used for computer, typewriter, and other similar applications. It is particularly useful where the user is a non-adult (child) or an adult with smaller than adult-sized hands. The input apparatus of the present invention provides fixed keys with a key spacing, smaller than the ANSI/HFS 100-1988 standard spacing, which advantageously permits children as young as 3 and 4 years old to use the input apparatus utilizing standard touch typing techniques. Thus, the present invention relates to input apparatus and a method for using them and more particularly to a keyboard input device that is scaled to the size of the hands of non-adults (children) and adults having small hands.

2. Description of Prior Art

Previous input apparatus such as computer keyboards and typewriters utilize a specific key spacing and character layout that have evolved into standards. Character refers to the character generated by the computer, typewriter or other machine, upon receiving a signal that a particular key has been depressed or otherwise engaged.

The original "qwerty" key arrangement is the current accepted standard for keyboard character locations. A standard english language "qwerty" keyboard has three rows comprising alphabetic characters and punctuation marks. The remaining rows include numbers and a space bar. A return key, shift keys, a tab key and other command type keys may be included at the ends of each row.

Generally input apparatus such as computer keyboards have the following "qwerty" arrangement with individual rows and columns of keys offset with respect to one another:

`	1	2	3	4	5	6	7	8	9	0	-	=	del
tab	q	w	e	r	t	y	u	i	o	p	[	]	\
cap	a	s	d	f	g	h	j	k	l	;	'	return	
sh	ft	z	x	c	v	b	n	m	,	.	/	shift	
con	opt	alt	space bar								alt	opt	con

cap = caps lock; con = control; alt = alt; opt = optional

Holding down the shift key will add the following alpha-numeric characters and punctuation marks:

~	!	@	#	$	%	^	&	*	(	)	_		del
tab	Q	W	E	R	T	Y	U	I	O	P	{	}	|
cap	A	S	D	F	G	H	J	K	L	:	"	return	
shift		Z	X	C	V	B	N	M	<	>	?	shift	
con	opt	alt	space bar								alt	opt	con

cap = caps lock; con = control; alt = alt; opt = optional

Function keys, arrow keys, and/or a separate numeric keypad may be added on the top and or side of this layout. In addition, different computer manufacturers may include additional keys for controlling the operation of their particular computers.

In addition to the "qwerty" keyboard layout, other letter layouts such as the Dvorak keyboard have been developed. As will be recognized by the those of ordinary skill in the art from the following descriptions of the present invention, the present invention may comprise any character key layout, such as the qwerty character layout, the Dvorak character layout and the like. Moreover, the present invention may be utilized with character layouts other than the standard English language characters. Thus, it should be understood that the present invention is not limited to a particular arrangement of characters corresponding to each key.

Keyboard standards as to key size and spacing were published Feb. 4, 1988 as American National Standards Institute (ANSI)/Human Factors Society (HFS) Standard No. 100-1988 (hereinafter the "ANSI/HFS 100-1988 standard"). The purpose of this standard is stated as: "This is a technical standard that specifies conditions that have been established as representing acceptable implementation of human factors engineering principles and practices in the design of visual display terminals (VDTs), associated furniture, and the office environment in which they are placed. Human factors engineering principles and practices are highly application dependent. This technical standard is written for those VDT applications described as text processing, data entry, and data inquiry."

The key spacing described in the ANSI/HFS 100-1988 standard is that the center line distance between the horizontal keys shall be between 18 and 19 mm and the center line distance between the vertical keys shall be between 18 and 21 mm. Center line distance is described in the ANSI/HFS 100-1988 standard. Vertical center line distance is the distance between two parallel lines, the first line horizontally bisecting a first key and the second line horizontally bisecting a second adjacent key above or below the first key. Similarly, horizontal center line distance is the distance between two parallel lines, the first line vertically bisecting a first key and the second line vertically bisecting a second adjacent key to the left or right side of the first key. Horizontal and vertical center line distances may be further understood in view of the following discussions and with reference to the appended figures.

Historically in the art the various inventions of input apparatus are based upon the ANSI/HFS 100-1988 standard which is a result of the evolution of the various input apparatus. It is seen that these various input apparatus are

attached to various machines such as typewriters and computers. Historically the input apparatus were designed for the use by adult humans. The training of an individual in the use of these various input apparatus began at the high school level. These high school users were typically 16 years old or older. At this age their hand lengths fall in the 5th percentile of an adult male's hands, meaning they are then suited to using the devices currently provided. The 5th percentile is a size that results from surveying a group of adult males and calculating the frequency in which various sizes occur. The 5th percentile is a number that one would expect 5% of adult males to resemble, on the shorter end of the scale. For example, the 5th percentile of adult males in one study had a hand length of 17.8 cm. The 95th percentile in this study had a hand length of 20.5 cm.

With the advent of the microcomputer there have been an increasing number of children and other than adult scale humans that use various input apparatus. It would be desirable to have an input apparatus which would accommodate their physical sizes, especially their hands in relation to the input apparatus. These users currently in some instances cannot perform routine keystrokes on their input apparatus due to the size and spacing of the keys. For example, a simple, often utilized, command such as control-alternate-delete cannot be easily performed by users with small scaled hands using the devices currently provided.

SUMMARY OF THE INVENTION

The present invention overcomes the aforementioned disadvantages and provides input apparatus such as keyboards, that are sized to fit the smaller than adult-dimensioned hands. This invention fills the ergonomic and anthropometric needs of nonadult students by providing input apparatus scaled to the size of the user's hands.

Studying the hand lengths of youths aged 4 through 16 and comparing these lengths with the 50th percentile lengths of an adult male indicates that at age 4 the children's hands are 61% of the adult, at age six 67.4%, at age eight 74.5% through age sixteen, 93%. These ranges indicate the needs for input devices of varying size.

Accordingly, an embodiment of the input apparatus of the present invention comprises a plurality of keys, sufficient for providing a plurality of input signals to a central processing unit, with a key size and key spacing, centerline to centerline, between 60 and 86% of the ANSI/HFS 100-1988 standard key spacing. This percentage range of the ANSI/HFS 100-1988 standard results in this embodiment of the input apparatus of the present invention having a vertical key spacing of 10.8 to 18.0 millimeters and a horizontal key spacing of 10.8 to 16.4 millimeters. As will be recognized by those of ordinary skill in the art, generally key spacing dictates key size since key spacing is based on centerline distance.

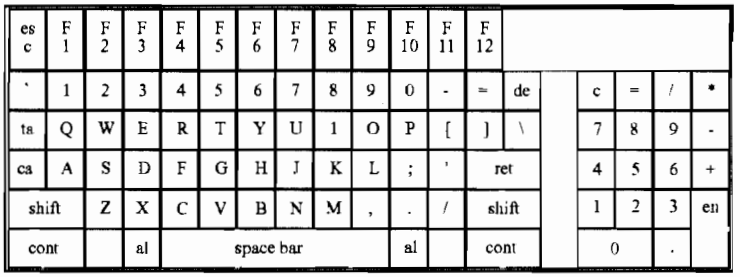
The input apparatus of the present invention may include a plurality of keys sufficient for generating input signals corresponding to each letter of the alphabet. As will be recognized by those of ordinary skill in the art, the generation of input signals corresponding to each letter of the alphabet may be achieved by using a single key for each letter, or, if less than 26 keys are desired, by having a combination of keys which generate a particular letter when engaged together. The individual rows and columns of keys may be offset in order to facilitate the ability of the user of the input apparatus to reach each key. As used herein "offset" refers to the generally utilized method for arranging keys such as disclosed by the ANSI/HFS 100-1988 standard.

Thus, in one embodiment, the input apparatus of the present invention comprises at least 26 keys corresponding to the 26 letters of the english alphabet. For different language alphabets it may be desirable to use a greater or smaller number of keys.

Preferably, the input apparatus of the present invention includes a plurality of keys sufficient for generating input signals corresponding to each letter of the alphabet, and each arabic numeral. Thus, in a preferable embodiment the input apparatus of the present invention comprises at least 36 keys corresponding to the 26 letters of the english alphabet and the ten arabic numerals. Additional, keys may be provided for inputting functions, such as the control and tab keys, found on generally utilized keyboards. Further keys may also be provided for inputting functions such as "home", "page up", "delete", "end", "page down", "up", "down", "left", "right" etc. Still further keys, generally referred to in the art as "function keys" may be included to generate input signals corresponding to particular functions assigned to the key by the operating system or program utilized by the computer receiving input signals from the input apparatus. The input apparatus may also include a key, such as a "shift" key that when depressed in combination with other keys generates uppercase letters or the like. In this manner, the total number of keys utilized in the input apparatus can be mininized if desired.

More preferably, the input apparatus of the present invention comprises at least 58 keys arranged in the standard "qwerty" arrangement described above, and with different functions depending on whether a "shift" key is depressed in combination with another key. This more preferred arrangement may additionally include a plurality of function keys located above or to the side of the alphanumeric keys, and/or function keys, arrow keys and a numeric keypad to the side, or above, the alphanumeric keys.

In one more preferred embodiment, the input apparatus of the present invention comprises at least 58 keys arranged in a manner similar to the following layout, and with the key spacing described above: (the rows and columns would be offset with respect to each other as described above and as shown in the appended figures)



F1 - F12 = function keys; esc = escape key; de = delete key;
c = clear key; ta = tab key; ca = caps lock key;
cont = control key; al = alt key

Additional arrow keys (for input cursor control signals) and function keys may be located between the alphabet keys and the numeric keypad. Input apparatus designed for use in environments where a language other than English is utilized would have alphanumeric keys appropriate for the desired language.

As will be recognized by those in the art, it may be desirable to separate the function keys and/or numeric keypad, from the alphanumeric and punctuation keys by including areas on the surface of the input apparatus that do not contain keys.

The prior art addresses the application of input apparatus for adults with normal adult male hand sizes in the adult work environment. My invention is the first to suggest a fixed size input apparatus designed specifically for children, and others with smaller than adult scale hands, that are currently being accommodated with the existing prior art.

The ergonomic and anthropometric advantages to my invention apparently are not obvious to those skilled in the art since the input apparatus known as a fixed key computer keyboard exists only in the scale intended for useage by adults with normal adult male hand sizes. The same applies to typewriter keyboards and other input apparatus. The invention of microcomputers resulted in the introduction of adult sized input apparatus to children and users with smaller than normal adult male hands.

Touch typing is now being taught in the third grade of elementary schools. Input apparatus, such as those of the present invention, designed for the scale of these and other non-adult students, and users, are beneficial in allowing the users to be properly accommodated and therefore increase learning ability and keyboard proficiency. It is preferred that the input apparatus of the present invention include sufficient keys to enable input signals to be generated corresponding to each letter of the English language alphabet utilizing standard touch typing techniques. Thus, the present invention also includes a method for teaching touch typing to humans with smaller than normal adult male hands utilizing standard techniques wherein the improvement comprises utilizing an input apparatus with the horizontal and vertical key spacing of the present invention.

In addition to the foregoing advantages, the use of a properly proportioned keyboard by children, and others with smaller than adult scale hands, will help these users avoid potential repetitive strain problems that might arise from using an improperly sized input apparatus.

The invention may be utilized in conjunction with a computing system comprised of a central processing unit, a visual display terminal, and a keyboard. This system can be comprised of separate elements or all elements within the same enclosure.

BRIEF DESCRIPTION OF THE FIGURES

FIG. **1** shows a view of a fixed key input apparatus.

FIG. **2** shows an example of a fixed key input apparatus of the present invention.

FIG. **3** shows an embodiment of a layout for a fixed key input apparatus of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

An embodiment of the present invention is shown in FIG. **1**. With reference to FIG. **1**, the centerline horizontal distance of the keys is 20. 20 can be 10.8 mm to 16.4 mm (0.425 inch and 0.646 inch). Preferable distances are 12.0 mm, 13.5 mm, and 14.5 mm for three different sizes based upon age and hand length. Other preferable distances are 12.75 mm and 14.15 mm for two different sizes based upon age and hand length.

The centerline vertical distance of the keys is 22. 22 can be 10.8 mm to 18.0 mm (0.425 inch and 0.711 inch). Preferable distances are 12.7 mm., 14.3 mm, and 15.6 mm for three different sizes based upon age and hand length. Other preferable distances are 13.45 mm and 14.9 mm for two different sizes based upon age and hand length.

Spacing for three different sizes is 65%, 73%, and 80% of the average spacing size used in the art, generally the ANSI/HFS 100-1988 standard. Spacing for two different sizes is 69% and 76.5% of the average spacing size used in the art (the ANSI/HFS 100-1988 standard).

The width of an individual key surface is 24. 24 can be 7.2 mm to 13 mm. Preferable distances are those that correspond to the percentage range selected for 20 and 22. Thus, preferable key surface widths are 7.8 mm, 8.76 mm and 9.6 mm (65%, 73% and 80% of the ANSI/HFS 100-1988 standard). Additional preferable key surface widths are 8.28 mm and 9.28 mm (69% and 76.5% of the ANSI/HFS 100-1988 standard).

The depth of an individual key surface is 26. 26 can be 7.2 mm to 15 mm. Preferable distances are those that match the range selected for 20 and 22. Thus, preferable key surface depths are 9.3 mm, 10.44 mm and 11.44 mm (65%, 73% and 80% of a conventional keyboard). Additional preferable key surface depths are 9.87 mm and 10.94 mm (69% and 76.5% of the ANSI/HFS 100-1988 standard).

As will be seen in the art, most input apparatus can include keys sized differently than 24 and 26, including function keys, keypad keys, space bars, numeric keypads and the like. In the input apparatus of the present invention, such keys, if present, will be ergonomically sized and spaced in a manner similar to the standard alphanumeric input keys. Thus, function keys, keypad keys, space bars, numeric keypads and the like would be located at a spacing generally corresponding to 60 to 86% of the ANSI/HFS 100-1988 standard. Preferably these keys would be located at a spacing from the alphanumeric keys corresponding to 65%, 73% and 80% of the ANSI/HFS 100-1988 standard. Additional preferable spacing would locate these keys at a spacing from the alphanumeric keys corresponding to 69% and 76.5% of the ANSI/HFS 100-1988 standard.

As will be recognized by those of skill in the art, other key spacing and key sizes within the ranges and other keyboard configurations fall within the scope of the present invention. As will be obvious to those skilled in the art the present invention may be applied to typewriters and input apparatus other than those designed for use with a computer.

The keyboard may be produced by any technology knowu to the art such as the technology disclosed in U.S. Pat. Nos. 5,067,834, 5,122,786, 4,669,903 and 4,661,005, the disclosures of which are hereby incorporated by reference, and other conventional technologies known to those skilled in the art. As will be obvious to those skilled in the art the present invention may be constructed as a keyboard comprised of the individual keys connecting to an electric or electronic matrix with a source of current allowing inputting electrical signals to a computer or other device.

The ANSI/HFS 100-1988 standard regarding other aspects of the keyboard, such as key force, keying feedback and keystroke travel may be utilized. For example, the conventional keystroke travel set forth in the ANSI/HFS 100-1988 standard, i.e 1.5–6 mm, preferably 2–4 mm. This keystroke travel distance can be used but it is preferred that the same 60% to 86% reduction used for key spacing also be used for keystroke travel. Thus the preferred keystroke travel distance for the input apparatus of the present invention is 1.2–3.44 mm. With different input apparatus sizes available the user can progress from small to larger with growth.

While the above description contains many specificities, the reader should not, construe these as limitation on the scope of the invention, but merely as exemplifications of preferred embodiments thereof. Those skilled in the art will envision many other possible variations within its scope. For example, skilled artisans have developed other keyboard types to address ergonomic needs of keyboard users by dividing the keyboard in half, changing the angle of the keys, etc. This invention is equally applicable to other adult-sized input apparatus in the art.

An embodiment of the input apparatus of the present invention is described in the following example:

EXAMPLE

A keyboard with the keys arranged in the manner known in the art as the "qwerty" key arrangement embodying in addition a row of 12 function keys arrayed horizontally directly above the horizontal numeric keys, a "10-key" keypad located to the right of the "qwerty" layout, cursor control keys, and various other keys as used in the art of a computer keyboard, the size and space of which is 73% of the keyboard described in the ANSI/HFS 100-1988 standard. The overall footprint of the keyboard is 36 cm wide by 15 cm in depth. The horizonal centerline key spacing, 20, is 13.5 mm. The vertical centerline key spacing, 22, is 14.235 mm. The key tops are, 24, 9 mm wide and, 26, 10 mm deep. The other keys are similarly scaled. The keyboard utilizes present art to provide a current response to the depression of each key or a combination of keys that is utilized by a central processing unit of a microcomputer, allowing the computer to display the information on a visual display unit.

The invention claimed is:

1. A fixed key input apparatus comprising a plurality of keys to generate input signals corresponding to each letter of an alphabet wherein the keys are arranged with a horizontal key spacing, centerline to centerline, of 10.8 to 16.4 millimeters, a vertical key spacing, centerline to centerline, of 10.8 to 18.0 millimeters, an individual key width of 7.2 to 13 millimeters, an individual key depth of 7.2 to 15 millimeters, and the keystroke travel range of said keys is about 0.9 to 6 millimeters, whereby the fixed key input apparatus is sized accordingly for use by a person with smaller than average hands.

2. The input apparatus of claim **1** wherein the alphabet is English and the input apparatus comprises a key for each letter of the alphabet.

3. The input apparatus of claim **1** further comprising keys to generate input signals corresponding to a plurality of numerals.

4. The input apparatus of claim **3** wherein the numerals are arabic numerals and the input apparatus comprises a key for each number 0 to 9.

5. The input apparatus of claim **1** further comprising a key or keys for generating signals corresponding to a function to be undertaken.

6. The input apparatus of claim **5** wherein the function to be undertaken comprises:

shift, return, control, alt, tab, caps lock, home, end, page up, page down, clear, scroll lock, up, down, left, right, backspace, delete, number lock (num lock), enter, print screen, pause, escape (esc), option, or combinations thereof.

7. The input apparatus of claim **2** wherein the individual keys are arranged in a qwerty layout.

8. The input apparatus of claim **2** further comprising keys to generate input signals corresponding to a plurality of numerals.

9. The input apparatus of claim **8** wherein the numerals are arabic numerals and the input apparatus comprises a key for each number 0 to 9.

10. The input apparatus of claim **8** further comprising a key or keys for generating signals corresponding to a function to be undertaken.

11. The input apparatus of claim **9** further comprising a key or keys for generating signals corresponding to a function to be undertaken.

12. The input apparatus of claim **10** wherein the function to be undertaken comprises: shift, return, control, alt, tab, caps lock, home, end, page up, page down, clear, scroll lock, up, down, left, right, backspace, delete, number lock (num lock), enter, print screen, scroll lock, pause, escape (esc), option, or combinations thereof.

13. The input apparatus of claim **1** further comprising a key or keys for generating input signals corresponding to a symbol.

14. The input apparatus of claim **3** further comprising a key or keys for generating input signals corresponding to a symbol.

15. The input apparatus of claim **8** further comprising a key or keys for generating input signals corresponding to a symbol.

16. The input apparatus of claim **15** wherein the symbol comprises: ', ~, !, @, #, $, %, ^, &, *, (,), _, -, +, =, \, |,], }, {, [, :, ;, “, ‘, ”, ’, <, ,, >, ., ?, or /.

17. The input apparatus of claim **16** wherein the alphabetic keys are arranged in a qwerty layout.

18. The input apparatus of claim **1** wherein the keystroke travel range of said keys is 2 to 4 millimeters.

19. The input apparatus of claim **18** wherein the keystroke travel range of said keys is 1.2 to 3.44 millimeters.

20. An ergonomic input apparatus comprising a plurality of keys, said plurality:

generating input signals corresponding to each letter of the English alphabet;

generating input signals corresponding to each arabic numeral 0 to 9;

generating input signals corresponding to a function to be undertaken wherein said function comprises: shift, return, control, alt, tab, caps lock, home, end, page up, page down, clear, scroll lock, up, down, left, right, backspace, delete, number lock (num lock), enter, print screen, pause, escape (esc), option, or combinations thereof; and generating input signals corresponding to symbols wherein said symbols comprise: ', ~, !, @, #, $, %, ^, &, *, (,), _, -, +, =, \, |,], }, {, [, :, ;, “, ‘, ”, ’, <, ,, >, ., ?, or /;

wherein said keys generating input signals corresponding to each letter of the English alphabet are arranged in an array having a horizontal key spacing, centerline to centerline, between adjacent keys, of 10.8 to 16.4 millimeters, a vertical key spacing, centerline to centerline, between adjacent keys of 10.8 to 18.0 millimeters, an individual key width of 7.2 to 13 millimeters, an individual key depth of 7.2 to 15 millimeters and

wherein the keystroke travel range of said keys is about 0.9 to 6 millimeters;

whereby the fixed key input apparatus is sized accordingly for use by a person with smaller than average hands.

21. The ergonomic input apparatus of claim **20** wherein the alphabetic keys are arranged in a qwerty layout.

22. The ergonomic input apparatus of claim **20** further comprising a plurality of function keys identified with the legend “F#” wherein # is an arabic numeral.

23. The ergonomic input apparatus of claim **21** wherein the keystroke travel range of said keys is 1.2 to 3.44 millimeters.

24. The input apparatus of claim **2** wherein the individual keys are arranged in a “Dvorak” layout.

* * * * *

UNITED STATES PATENT AND TRADEMARK OFFICE

CERTIFICATE OF CORRECTION

PATENT NO. : 7,101,101 B2
APPLICATION NO. : 08/612969
DATED : September 5, 2006
INVENTOR(S) : Dennis W. Nusser

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

Under "BACKGROUND"

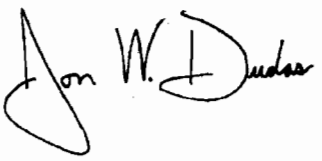
Column 3 Line 3 the phrase "the use by adult humans" should read--use by adult humans--

Column 5 Line 48, delete the comma "," between the words "students" and "users" --students and users--

Column 6 Line 44 delete the period"." between "mm" and "," --are 12.7 mm,--

Signed and Sealed this

Third Day of April, 2007



JON W. DUDAS
Director of the United States Patent and Trademark Office

Exhibit C

US007354209B2

(12) **United States Patent**
Nusser

(10) **Patent No.: US 7,354,209 B2**
(45) **Date of Patent: Apr. 8, 2008**

(54) **INPUT APPARATUS FOR PEOPLE HAVING SMALL HANDS**

(76) Inventor: **Dennis W. Nusser**, 512 Victoria Ter., Ft. Lauderdale, FL (US) 33301

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **11/495,125**

(22) Filed: **Jul. 28, 2006**

(65) **Prior Publication Data**

US 2006/0263136 A1 Nov. 23, 2006

Related U.S. Application Data

(63) Continuation of application No. 08/378,946, filed on Jan. 26, 1995, now Pat. No. 5,531,529, and a continuation of application No. 08/612,969, filed as application No. PCT/US94/09827 on Aug. 31, 1994, now Pat. No. 7,101,101, and a continuation of application No. 08/117,418, filed on Sep. 7, 1993, now abandoned.

(51) **Int. Cl.**
B41J 5/00 (2006.01)

(52) **U.S. Cl.** **400/472**; 400/682

(58) **Field of Classification Search** ..... None
See application file for complete search history.

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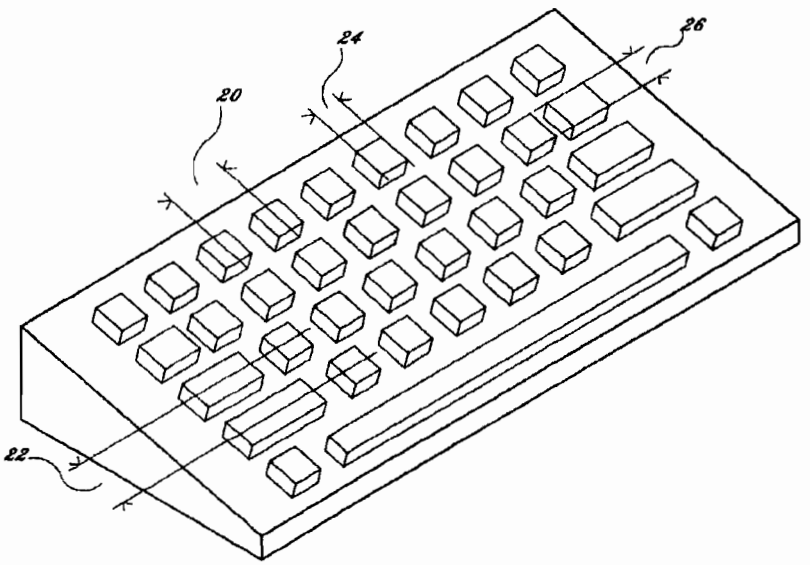
Primary Examiner—Anthony H. Nguyen
(74) *Attorney, Agent, or Firm*—Kilpatrick Stockton LLP

(57) **ABSTRACT**

Input apparatus scaled for non-adult humans and adult humans having small hands. The input apparatus are especially well suited for use as computer keyboards for use by schoolchildren. Also disclosed is a computing system including the input apparatus.

9 Claims, 2 Drawing Sheets



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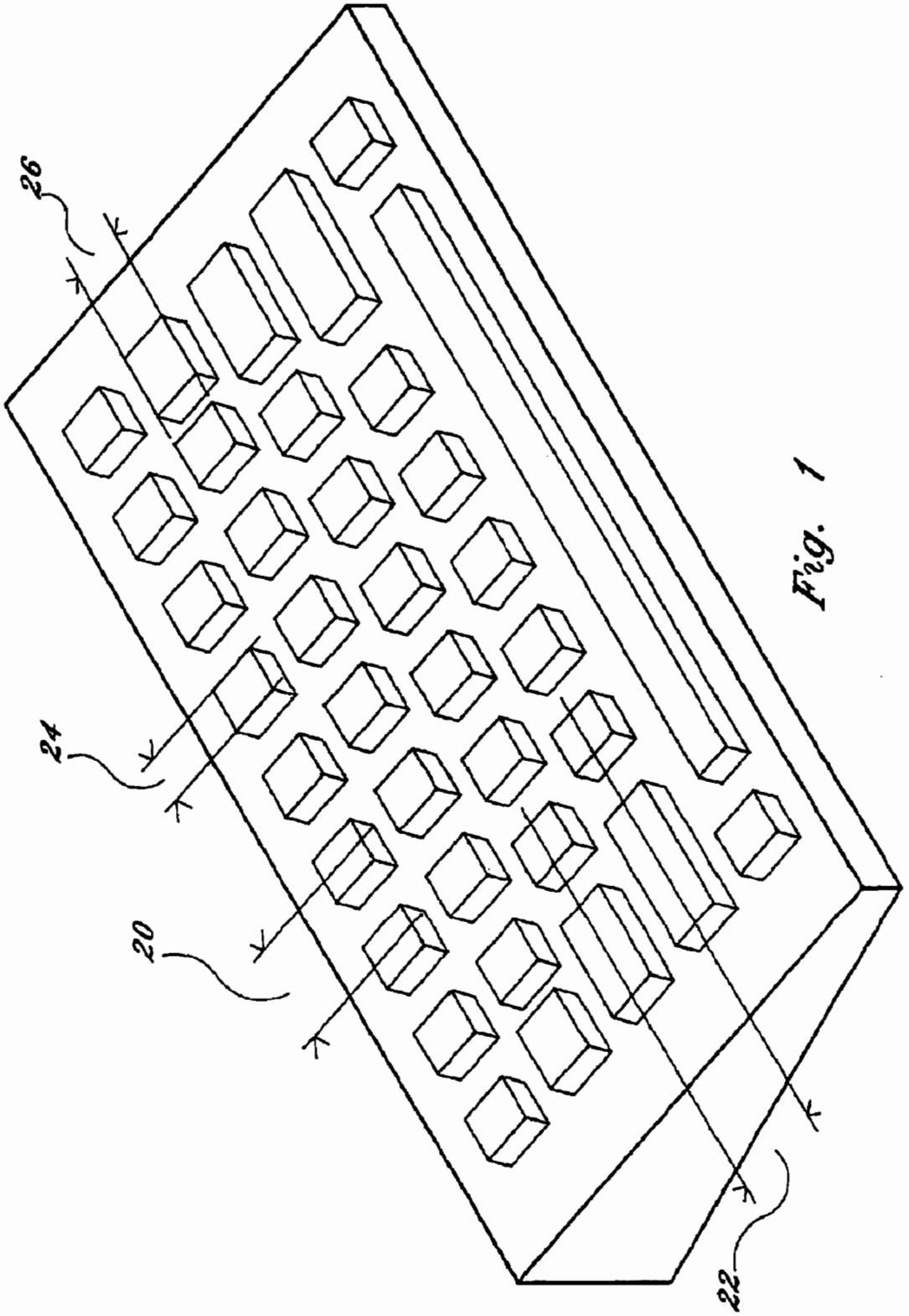


Fig. 1

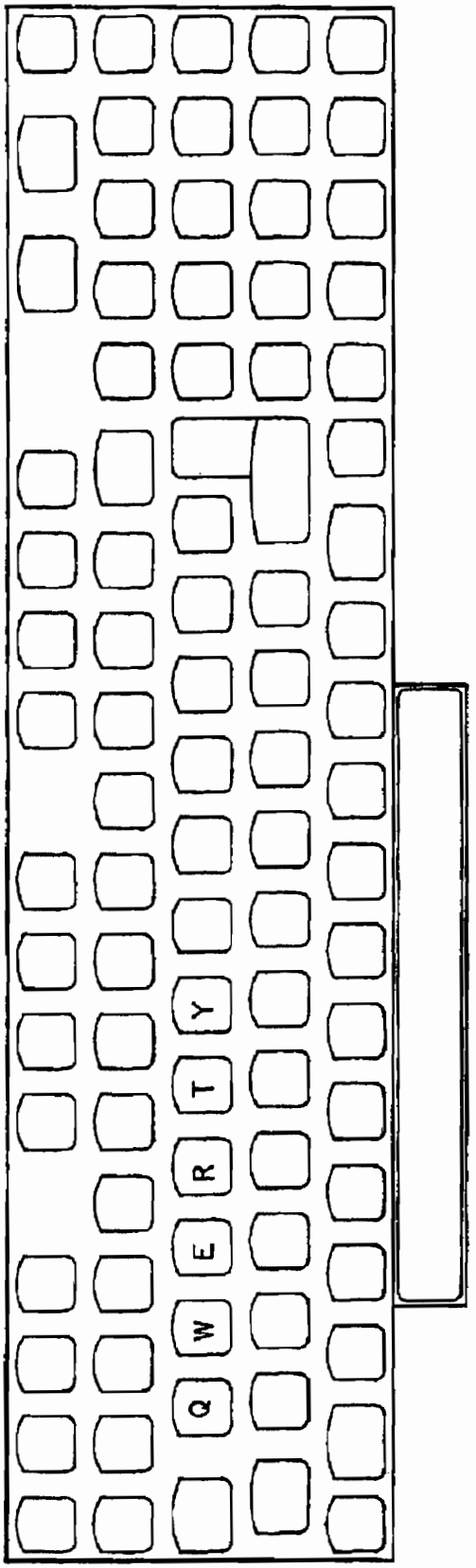


Fig. 2

INPUT APPARATUS FOR PEOPLE HAVING SMALL HANDS

RELATED APPLICATIONS

This application is a continuation of, and claims priority to U.S. patent application Ser. No. 08/612,969, filed Mar. 4, 1996, now U.S. Pat. No. 7,101,101, under 35 U.S.C. §371 from PCT/US 94/09827, filed on Aug. 31, 1994, and U.S. patent application Ser. No. 08/117,418, filed Sep. 7, 1993, abandoned, and 08/378,946, filed Jan. 26, 1995, now U.S. Pat. No. 5,531,529.

FIELD OF THE INVENTION

This invention relates to input apparatus, such as a keyboard, which can be used for computer, typewriter, and other similar applications. It is particularly useful where the user is a non-adult (child) or an adult with smaller than adult-sized hands. The input apparatus of the present invention provides fixed keys with a key spacing, smaller than the ANSI/HFS 100-1988 standard spacing, which advantageously permits children as young as 3 and 4 years old to use the input apparatus utilizing standard touch typing techniques. Thus, the present invention relates to input apparatus and a method for using them and more particularly to a keyboard input device that is scaled to the size of the hands of non-adults (children) and adults having small hands.

BACKGROUND

Description of Prior Art

Previous input apparatus such as computer keyboards and typewriters utilize a specific key spacing and character layout that have evolved into standards. Character refers to the character generated by the computer, typewriter or other machine, upon receiving a signal that a particular key has been depressed or otherwise engaged.

The original "qwerty" key arrangement is the current accepted standard for keyboard character locations. A standard english language "qwerty" keyboard has three rows comprising alphabetic characters and punctuation marks. The remaining rows include numbers and a space bar. A return key, shift keys, a tab key and other command type keys may be included at the ends of each row.

Generally input apparatus such as computer keyboards have the following "qwerty" arrangement with individual rows and columns of keys offset with respect to one another:

`	1	2	3	4	5	6	7	8	9	0	-	=	del
tab	q	w	e	r	t	y	u	i	o	p	[	]	\
cap	a	s	d	f	g	h	j	k	l	;	'		return
shift	z	x	c	v	b	n	m	,	.	/			shift
con	opt	alt				space bar					alt	opt	con

cap = caps lock;
con = control;
alt = alt;
opt = optional

Holding down the shift key will add the following alphanumeric characters and punctuation marks:

~	!	@	#	$	%	^	&	*	(	)	_	+	del
tab	Q	W	E	R	T	Y	U	I	O	P	{	}	|

-continued

cap	A	S	D	F	G	H	J	K	L	:	"		return
shift	Z	X	C	V	B	N	M	<	>	?			shift
con	opt	alt				space bar					alt	opt	con

cap = caps lock;
con = control;
alt = alt;
opt = optional

Function keys, arrow keys, and/or a separate numeric keypad may be added on the top and/or side of this layout. In addition, different computer manufacturers may include additional keys for controlling the operation of their particular computers.

In addition to the "qwerty" keyboard layout, other letter layouts such as the Dvorak keyboard have been developed. As will be recognized by the those of ordinary skill in the art from the following descriptions of the present invention, the present invention may comprise any character key layout, such as the qwerty character layout, the Dvorak character layout and the like. Moreover, the present invention may be utilized with character layouts other than the standard English language characters. Thus, it should be understood that the present invention is not limited to a particular arrangement of characters corresponding to each key.

Keyboard standards as to key size and spacing were published Feb. 4, 1988 as American National Standards Institute (ANSI)/Human Factors Society (HFS) Standard No. 100-1988 (hereinafter the "ANSI/HFS 100-1988 standard"). The purpose of this standard is stated as: "This is a technical standard that specifies conditions that have been established as representing acceptable implementation of human factors engineering principles and practices in the design of visual display terminals (VDTs), associated furniture, and the office environment in which they are placed. Human factors engineering principles and practices are highly application dependent. This technical standard is written for those VDT applications described as text processing, data entry, and data inquiry."

The key spacing described in the ANSI/HFS 100-1988 standard is that the center line distance between the horizontal keys shall be between 18 and 19 mm and the center line distance between the vertical keys shall be between 18 and 21 mm. Center line distance is described in the ANSI/HFS 100-1988 standard. Vertical center line distance is the distance between two parallel lines, the first line horizontally bisecting a first key and the second line horizontally bisecting a second adjacent key above or below the first key. Similarly, horizontal center line distance is the distance between two parallel lines, the first line vertically bisecting a first key and the second line vertically bisecting a second adjacent key to the left or right side of the first key. Horizontal and vertical center line distances may be further understood in view of the following discussions and with reference to the appended figures.

Historically in the art the various inventions of input apparatus are based upon the ANSI/HFS 100-1988 standard which is a result of the evolution of the various input apparatus. It is seen that these various input apparatus are attached to various machines such as typewriters and computers. Historically the input apparatus were designed for the use by adult humans. The training of an individual in the use of these various input apparatus began at the high school level. These high school users were typically 16 years old or older. At this age their hand lengths fall in the 5th percentile of an adult male's hands, meaning they are then suited to

using the devices currently provided. The 5th percentile is a size that results from surveying a group of adult males and calculating the frequency in which various sizes occur. The 5th percentile is a number that one would expect 5% of adult males to resemble, on the shorter end of the scale. For example, the 5th percentile of adult males in one study had a hand length of 17.8 cm. The 95th percentile in this study had a hand length of 20.5 cm.

With the advent of the microcomputer there have been an increasing number of children and other than adult scale humans that use various input apparatus. It would be desirable to have an input apparatus which would accommodate their physical sizes, especially their hands in relation to the input apparatus. These users currently in some instances cannot perform routine keystrokes on their input apparatus due to the size and spacing of the keys. For example, a simple, often utilized, command such as control-alternate-delete cannot be easily performed by users with small scaled hands using the devices currently provided.

SUMMARY OF THE INVENTION

The present invention overcomes the aforementioned disadvantages and provides input apparatus such as keyboards, that are sized to fit the smaller than adult-dimensioned hands. This invention fills the ergonomic and anthropometric needs of nonadult students by providing input apparatus scaled to the size of the user's hands.

Studying the hand lengths of youths aged 4 through 16 and comparing these lengths with the 50th percentile lengths of an adult male indicates that at age 4 the children's hands are 61% of the adult, at age six 67.4%, at age eight 74.5% through age sixteen, 93%. These ranges indicate the needs for input devices of varying size.

Accordingly, an embodiment of the input apparatus of the present invention comprises a plurality of keys, sufficient for providing a plurality of input signals to a central processing unit, with a key size and key spacing, centerline to centerline, between 60 and 86% of the ANSI/HFS 100-1988 standard key spacing. This percentage range of the ANSI/HFS 100-1988 standard results in this embodiment of the input apparatus of the present invention having a vertical key spacing of 10.8 to 18.0 millimeters and a horizontal key spacing of 10.8 to 16.4 millimeters. As will be recognized by those of ordinary skill in the art, generally key spacing dictates key size since key spacing is based on centerline distance.

The input apparatus of the present invention may include a plurality of keys sufficient for generating input signals corresponding to each letter of the alphabet. As will be recognized by those of ordinary skill in the art, the generation of input signals corresponding to each letter of the alphabet may be achieved by using a single key for each letter, or, if less than 26 keys are desired, by having a combination of keys which generate a particular letter when engaged together. The individual rows and columns of keys may be offset in order to facilitate the ability of the user of the input apparatus to reach each key. As used herein "offset" refers to the generally utilized method for arranging keys such as disclosed by the ANSI/HFS 100-1988 standard.

Thus, in one embodiment, the input apparatus of the present invention comprises at least 26 keys corresponding to the 26 letters of the English alphabet. For different language alphabets it may be desirable to use a greater or smaller number of keys.

Preferably, the input apparatus of the present invention includes a plurality of keys sufficient for generating input signals corresponding to each letter of the alphabet, and each arabic numeral. Thus, in a preferable embodiment the input apparatus of the present invention comprises at least 36 keys corresponding to the 26 letters of the English alphabet and the ten arabic numerals. Additional, keys may be provided for inputting functions, such as the control and tab keys, found on generally utilized keyboards. Further keys may also be provided for inputting functions such as "home", "page up", "delete", "end", "page down", "up", "down", "left", "right" etc. Still further keys, generally referred to in the art as "function keys" may be included to generate input signals corresponding to particular functions assigned to the key by the operating system or program utilized by the computer receiving input signals from the input apparatus. The input apparatus may also include a key, such as a "shift" key that when depressed in combination with other keys generates uppercase letters or the like. In this manner, the total number of keys utilized in the input apparatus can be minimized if desired.

More preferably, the input apparatus of the present invention comprises at least 58 keys arranged in the standard "qwerty" arrangement described above, and with different functions depending on whether a "shift" key is depressed in combination with another key. This more preferred arrangement may additionally include a plurality of function keys located above or to the side of the alphanumeric keys, and/or function keys, arrow keys and a numeric keypad to the side, or above, the alphanumeric keys.

In one more preferred embodiment, the input apparatus of the present invention comprises at least 58 keys arranged in a manner similar to the following layout, and with the key spacing described above: (the rows and columns would be offset with respect to each other as described above and as shown in the appended figures)

esc	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12					
`	1	2	3	4	5	6	7	8	9	0	-	=	de	c	=	/	*
ta	Q	W	E	R	T	Y	U	I	O	P	[	]	\	7	8	9	–
ca	A	S	D	F	G	H	J	K	L	;	'		ret	4	5	6	+
	shift	Z	X	C	V	B	N	M	,	.	/		shift	1	2	3	cn
	cont		al			space bar				al			cont		0	.	

F1-F12 = function keys;
esc = escape key;
de = delete key;
c = clear key;
ta = tab key;
ca = caps lock key;
cont = control key;
al = alt key

Additional arrow keys (for input cursor control signals) and function keys may be located between the alphabet keys and the numeric keypad. Input apparatus designed for use in environments where a language other than English is utilized would have alphanumeric keys appropriate for the desired language.

As will be recognized by those in the art, it may be desirable to separate the function keys and/or numeric keypad, from the alphanumeric and punctuation keys by including areas on the surface of the input apparatus that do not contain keys.

The prior art addresses the application of input apparatus for adults with normal adult male hand sizes in the adult work environment. My invention is the first to suggest a fixed size input apparatus designed specifically for children, and others with smaller than adult scale hands, that are currently being accommodated with the existing prior art.

The ergonomic and anthropometric advantages to my invention apparently are not obvious to those skilled in the art since the input apparatus known as a fixed key computer keyboard exists only in the scale intended for useage by adults with normal adult male hand sizes. The same applies to typewriter keyboards and other input apparatus. The invention of microcomputers resulted in the introduction of adult sized input apparatus to children and users with smaller than normal adult male hands.

Touch typing is now being taught in the third grade of elementary schools. Input apparatus, such as those of the present invention, designed for the scale of these and other non-adult students, and users, are beneficial in allowing the users to be properly accommodated and therefore increase learning ability and keyboard proficiency. It is preferred that the input apparatus of the present invention include sufficient keys to enable input signals to be generated corresponding to each letter of the English language alphabet utilizing standard touch typing techniques. Thus, the present invention also includes a method for teaching touch typing to humans with smaller than normal adult male hands utilizing standard techniques wherein the improvement comprises utilizing an input apparatus with the horizontal and vertical key spacing of the present invention.

In addition to the foregoing advantages, the use of a properly proportioned keyboard by children, and others with smaller than adult scale hands, will help these users avoid potential repetitive strain problems that might arise from using an improperly sized input apparatus.

The invention may be utilized in conjunction with a computing system comprised of a central processing unit, a visual display terminal, and a keyboard. This system can be comprised of separate elements or all elements within the same enclosure.

BRIEF DESCRIPTION OF THE FIGURES

FIG. **1** shows a view of a fixed key input apparatus.

FIG. **2** shows an example of a fixed key input apparatus of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

An embodiment of the present invention is shown in FIG. **1**. With reference to FIG. **1**, the centerline horizontal distance of the keys is **20**. **20** can be 10.8 mm to 16.4 mm (0.425 inch and 0.646 inch). Preferable distances are 12.0 mm, 13.5 mm, and 14.5 mm for three different sizes based upon age and hand length. Other preferable distances are 12.75 mm and 14.15 mm for two different sizes based upon age and hand length.

The centerline vertical distance of the keys is **22**. **22** can be 10.8 mm to 18.0 mm (0.425 inch and 0.711 inch). Preferable distances are 12.7 mm., 14.3 mm, and 15.6 mm for three different sizes based upon age and hand length. Other preferable distances are 13.45 mm and 14.9 mm for two different sizes based upon age and hand length.

Spacing for three different sizes is 65%, 73%, and 80% of the average spacing size used in the art, generally the ANSI/HFS 100-1988 standard. Spacing for two different sizes is 69% and 76.5% of the average spacing size used in the art (the ANSI/HFS 100-1988 standard).

The width of an individual key surface is **24**. **24** can be 7.2 mm to 13 mm. Preferable distances are those that correspond to the percentage range selected for **20** and **22**. Thus, preferable key surface widths are 7.8 mm, 8.76 mm and 9.6 mm (65%, 73% and 80% of the ANSI/HFS 100-1988 standard). Additional preferable key surface widths are 8.28 mm and 9.28 mm (69% and 76.5% of the ANSI/HFS 100-1988 standard).

The depth of an individual key surface is **26**. **26** can be 7.2 mm to 15 mm. Preferable distances are those that match the range selected for **20** and **22**. Thus, preferable key surface depths are 9.3 mm, 10.44 mm and 11.44 mm (65%, 73% and 80% of a conventional keyboard). Additional preferable key surface depths are 9.87 mm and 10.94 mm (69% and 76.5% of the ANSI/HFS 100-1988 standard).

As will be seen in the art, most input apparatus can include keys sized differently than **24** and **26**, including function keys, keypad keys, space bars, numeric keypads and the like. In the input apparatus of the present invention, such keys, if present, will be ergonomically sized and spaced in a manner similar to the standard alphanumeric input keys. Thus, function keys, keypad keys, space bars, numeric keypads and the like would be located at a spacing generally corresponding to 60 to 86% of the ANSI/HFS 100-1988 standard. Preferably these keys would be located at a spacing from the alphanumeric keys corresponding to 65%, 73% and 80% of the ANSI/HFS 100-1988 standard. Additional preferable spacing would locate these keys at a spacing from the alphanumeric keys corresponding to 69% and 76.5% of the ANSI/HFS 100-1988 standard.

As will be recognized by those of skill in the art, other key spacing and key sizes within the ranges and other keyboard configurations fall within the scope of the present invention. As will be obvious to those skilled in the art the present invention may be applied to typewriters and input apparatus other than those designed for use with a computer.

The keyboard may be produced by any technology known to the art such as the technology disclosed in U.S. Pat. Nos. 5,067,834, 5,122,786, 4,669,903 and 4,661.005, the disclosures of which are hereby incorporated by reference, and other conventional technologies known to those skilled in the art. As will be obvious to those skilled in the art the present invention may be constructed as a keyboard comprised of the individual keys connecting to an electric or electronic matrix with a source of current allowing inputting electrical signals to a computer or other device.

The ANSI/HFS 100-1988 standard regarding other aspects of the keyboard, such as key force, keying feedback and keystroke **1** travel may be utilized. For example, the conventional keystroke travel set forth in the ANSI/HFS 100-1988 standard, i.e 1.5-6 mm, preferably 2-4 mm. This keystroke travel distance can be used but it is preferred that the same 60% to 86% reduction used for key spacing also be

used for keystroke travel. Thus the preferred keystroke travel distance for the input apparatus of the present invention is 41.2-3.44 mm.- With different input apparatus sizes available the user can progress from small to larger with growth.

While the above description contains many specificities, the reader should not construe these as limitation on the scope of the invention, but merely as exemplifications of preferred embodiments thereof. Those skilled in the art will envision many other possible variations within its scope. For example, skilled artisans have developed other keyboard types to address ergonomic needs of keyboard users by dividing the keyboard in half, changing the angle of the keys, etc. This invention is equally applicable to other adult-sized input apparatus in the art.

An embodiment of the input apparatus of the present invention is described in the following example:

EXAMPLE

A keyboard with the keys arranged in the manner known in the art as the "qwerty" key arrangement embodying in addition a row of 12 function keys arrayed horizontally directly above the horizontal numeric keys, a "10-key" keypad located to the right of the "qwerty" layout, cursor control keys, and various other keys as used in the art of a computer keyboard, the size and space of which is 73% of the keyboard described in the ANSI/HFS 100-1988 standard. The overall footprint of the keyboard is 36 cm wide by 15 cm in depth. The horizontal centerline key spacing, **20**, is 13.5 mm. The vertical centerline key spacing, **22**, is 14.235 mm. The key tops are, **24**, 9 mm wide and, **26**, 10 mm deep. The other keys are similarly scaled. The keyboard utilizes present art to provide a current response to the depression of each key or a combination of keys that is utilized by a central processing unit of a microcomputer, allowing the computer to display the information on a visual display unit.

That which is claimed is:

1. A method of teaching data entry comprising providing a fixed key apparatus reduced in size to be between 60 to 86% of the adult standard size wherein fixed key input apparatus comprises a plurality of keys to generate input signals corresponding to each letter of the alphabet wherein the keys are arranged with a horizontal key spacing, centerline to centerline, of 10.8 to 16.4 millimeters, a vertical key spacing, centerline to centerline of 10.8 to 18.0 millimeters, and a keystroke travel range of said keys is about 0.9 to 6 millimeters.

2. The method of claim **1**, wherein the individual keys are a ranged in a qwerty layout.

3. The method of claim **1**, wherein the alphabet is English and the input apparatus comprises at least 26 keys.

4. The method of claim **3**, further comprising keys to generate input signals corresponding to each numeral.

5. The method of claim **4**, wherein the numerals are Arabic numerals and the input apparatus comprises at least 36 keys.

6. The method of claim **1**, further comprising keys for generating signals corresponding to a function to be undertaken.

7. The method of claim **6**, wherein the function to be undertaken is selected from the group consisting of: shift, return, control, alt, tab, caps lock, home, end, page up, page down, clear, scroll lock and combinations thereof.

8. The method of claim **1**, wherein the individual key width is 7.2 mm to 13 mm.

9. The method of claim **1**, wherein the individual key depth is 7.2 mm to 15 mm.

* * * * *

Exhibit D

Dennis W. Nusser
512 N. Victoria Terrace
Fort Lauderdale, Florida 33301
954-524-2671
nusserd@bellsouth.net

March 24, 2008

Mr. Donald Leung
ASUS Computer International
44370 Nobel Drive
Fremont, California 94538

Re: ASIS Eee PC

Dear Mr. Leung

I am Dennis Nusser, the inventor and owner of the subject matter of US Patent Numbers 7,101,101 and 5,531,529 and additional corresponding US and foreign patents and patent applications. Copies of US Patent Numbers 7,101,101 and 5,531,529 are enclosed for your reference.

Based on published news reports and your website, I understand that ASUS Computer International or your parent company is producing and selling computer products referred to as the ASUS Eee 701 and ASUS Eee 900 notebook computers. It appears, from the information publicly available and, from measuring a C Skin keyboard overlay I received last week from Hong Kong, that the keyboards on these machines fall within one or more claims of my patents.

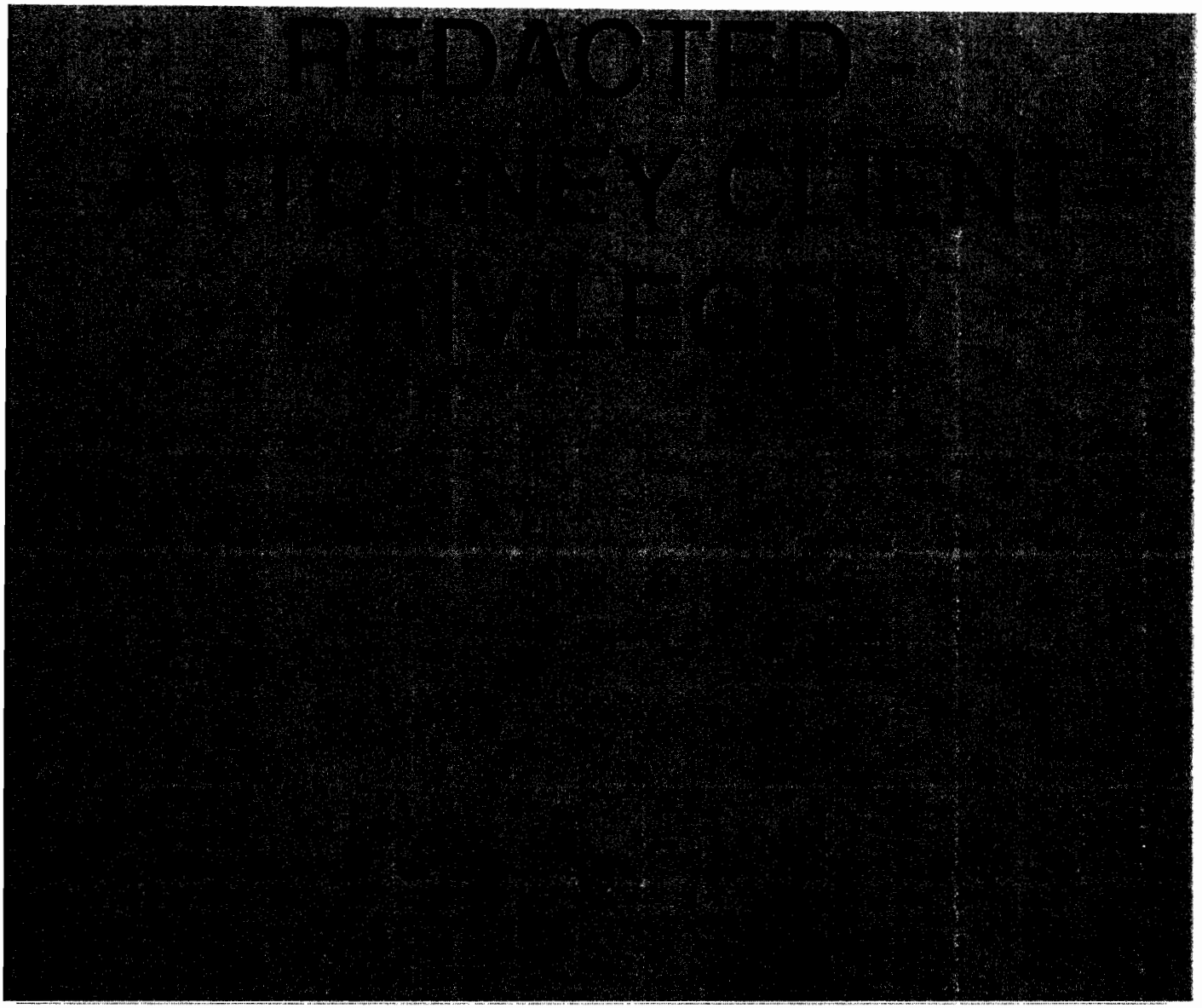
I applaud, and support, the efforts of ASUSTek to make computers more readily transportable and convenient. Accordingly, I am interested in licensing or selling my patents to ASUS Computer International or your parent company to allow you to continue your work.

Please contact me at your earliest convenience to discuss such a patent license or sale.

Very truly yours,

Dennis W. Nusser

Exhibit E



From: Peter G Herman [mailto:pgh@TrippScott.com]
Sent: Tuesday, September 21, 2010 5:45 AM
To: Jacky Lu(陸國平)
Cc: Alex Brown; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Jacky, by now it would seem that your R and D department would have provided you other 900 models. Unfortunately, we have not heard from you, therefore, at this point we must move forward to pursue a lawsuit or in the alternative engage in reasonable and prompt settlement discussions. If you wish to engage in settlement discussions please let us know soon since we are in the process of preparing the complaint. Also, should the need arise to file a lawsuit will you please let us know whether Asus will accept service through an authorized representative.? Incidentally, we have found that some of your competitors are also infringing the Nusser patents who we have also placed on notice of their infringing products. You might be interested to know that some of them have an interest in obtaining a license from Mr. Nusser. Since, in the past, you have inquired about exclusive

licensing or purchasing the Nusser patents I thought it would be prudent to let you know that others are interested. As always thanks for your prompt consideration of these issues.

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Peter G. Herman
Director

Direct: (954) 760-4913
Fax: (954) 761-8475
PGH@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Monday, September 13, 2010 6:33 AM
To: Peter G Herman
Cc: Alex Brown; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Peter,

It seems to me our eee pc 900's keyboard sample at hand is different from your mentioned eee PC 900 HA, we already contacted with RD and found an eee pc 900HA as you mentioned model. It will help us to have the same product to discuss this issue.

As to eee PC 700, please refer to the invalidation report I sent to you on Aug. 23. I also attached it on the bottom of this email. It is very obvious that the prior art already disclosed all elements in your client Nusser's patent. If a prior art already anticipate those elements in the claim, it will result in the invalidation of the asserted patent and non-infringement.

Are you sure whether you still want to insist to define the "key width" as the width of an individual key **surface** 24? It might alos possible to help us to create more strategies.

Subject FRE 408 Foe negotiation purpose only

wherein the horizontal key spacing of said alphanumeric keys is 60-86% of the range of 18 to 19 millimeters, centerline to centerline, the vertical key spacing of said alphanumeric keys is 60-86% of the range of 18 to 21 millimeters, centerline to centerline and the keystroke	

travel range of said alphanumeric keys is 60-86% of the range of 1.5 to 6.0 millimeters.	[redacted] (1) horizontal key spacing(centerline to centerline):around 11.74 millimeters (2) vertical key spacing(centerline to centerline):around 12.23mm (3) keystroke travel range: around 0.95 mm

From: Peter G Herman [mailto:pgh@TrippScott.com]
Sent: Friday, September 10, 2010 5:37 AM
To: Jacky Lu(陸國平)
Cc: Alex Brown
Subject: RE: Dennis patent issue

Jacky, it appears that you are measuring a keyboard that likely would not be compatible with any eee pc 900. The keyboard that you have measured has a total width that would exceed the physical dimensions of the eee pc 900 casing that measures 225mm according to the Asus website. In any event I'm in possession of an eee pc 900HA that does in fact infringe. Please provide a picture of the eee pc 900 that you suggest contains the keyboard that has your measurements and the model number. Also, as you have not addressed the eee pc 700 series in your emails I assume you agree its measurement fall within the claims of the Nusser patents. If we still have a disagreement on infringement and Asus does not wish to resolve this without litigation please let me know as we would like to proceed accordingly and would ask that you accept service on behalf of Asus. Thank you for all of your thoughts and consideration regarding the Nusser patents.

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Director

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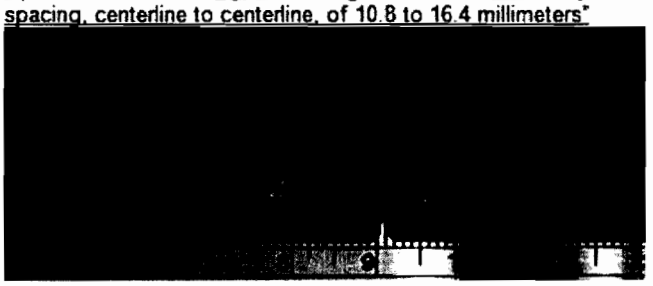
From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Thursday, September 09, 2010 7:29 AM
To: Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Peter,

You seem argue "an individual key width of 7.2 to 13 millimeter" in the claim 1 should be interpreted as "the width of an individual key surface is 24" which described in the embodiment and figure 1. Actually, the claim language defines the scope of protection asserted by the inventor, the claim must comprise precise language. Otherwise, the public can not understand the real scope of the claim and the issued patent might bar the progress of technology. From the claim and specification, we understood the inventor should know the difference between "key width" and "the width of key surface", so the inventor use those two different terms in the patent. It's not reasonable to use ambiguous term in the claim first, but ask a favorable interpretation many years later.

Due to we have several non-infringement arguments, even ASUS does not contend the definition of "key width" with you, the claim 1 of '101 still requires " a horizontal key spacing, centerline to centerline, of 10.8 to 16.4 millimeters. Please refer to below figure, the horizontal key spacing is out of the range 10.8 to 16.4. It shows EEE PC 900 do not infringe your client's patent. If you still have question, please do not hesitate to contact me.-----Jacky

a plurality of keys to generate input signals corresponding to each letter of the alphabet wherein the keys are arranged with a horizontal key spacing, centerline to centerline, of 10.8 to 16.4 millimeters, a vertical key spacing, centerline to centerline of 10.8 to 18.0 millimeters, and a keystroke travel range of said keys is about 0.9 to 6 millimeters.	From the wording of claim itself, the claim requires "keys to generate input signals corresponding to each letter of the alphabet wherein the keys are arranged with a horizontal key spacing, centerline to centerline, of 10.8 to 16.4 millimeters"  The horizontal key spacing, centerline to centerline, of EEE PC 900 between letters is not in the 10.8 to 16.4 range. So EEE PC 900 does not infringe '209.

From: Peter G Herman [mailto:pgh@TrippScott.com]
Sent: Tuesday, September 07, 2010 10:35 PM
To: Jacky Lu(陸國平)
Subject: RE: Dennis patent issue

Jacky, thank you for your response. It is critical for your infringement analysis to make sure that the measurements of the keys are made consistent with the terms of the patent. The way you have measured them is inconsistent with the patent and therefore results in a flawed infringement analysis. For instance, in fig. 1 of the 101 patent "the width of an individual key **surface** is 24. The measurements are clearly stated to be taken using the key's surface as opposed to the key's base. If you measure the key's surface on the EPEE Pc 900 you will find that it infringes. Jacky, we appreciate the infringement discussion, however we remain convinced that this as a very clear case of infringement and are of the mindset to proceed unless Asus is willing to discuss meaningful settlement at this point. Please let us know whether Asus wishes to engage in such discussions. Thanks

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954-525-7500

Peter G. Herman
Director

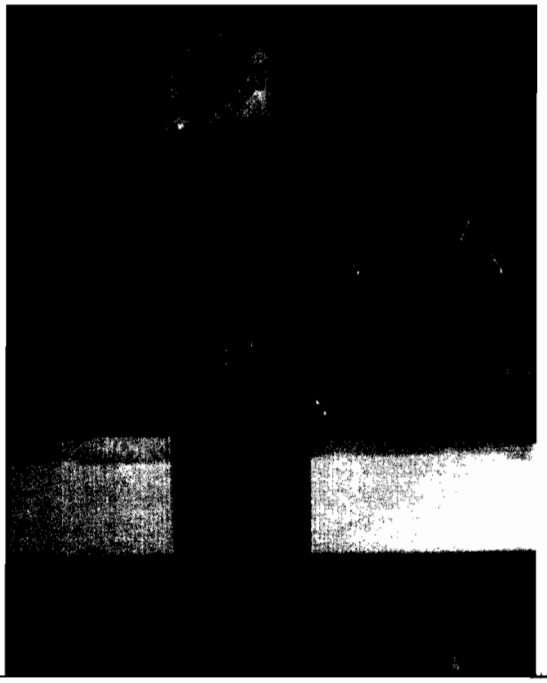
Direct: (954) 760-4913
Fax: (954) 761-8475
PGH@trippscott.com

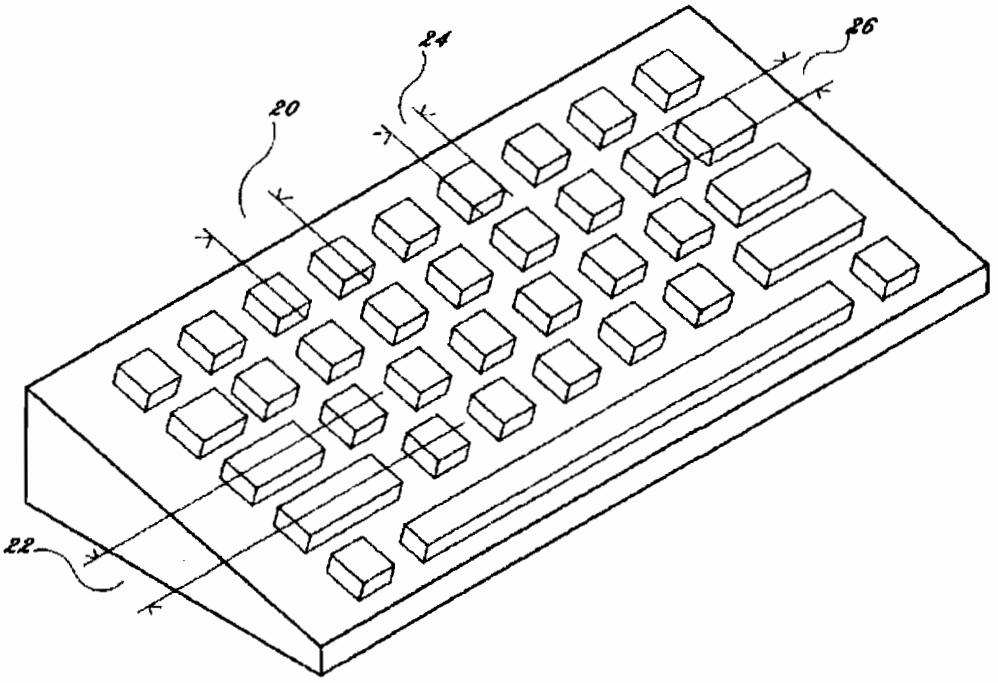
From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Monday, September 06, 2010 6:48 AM
To: Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Peter,

In my non-infringement and invalidation analysis which sent on Aug.23, it includes prior arts and measurement of ASUS products.From your previous emails, I am not sure what subject are you interested in?

Currently, we understood you do not have question regarding those prior arts, you are interested in the measurement of ASUS product. Please refer to below figure, it show the measurement of keycap. If you still have question, please do not hesitate to contact me.-----Jacky

plurality of keys to generate input signals corresponding to each letter of an alphabet wherein the keys are arranged with a horizontal key spacing, centerline to centerline, of 10.8 to 16.4 millimeters, a vertical key spacing, centerline to centerline, of 10.8 to 18.0 millimeters, an individual key width of 7.2 to 13 millimeters, an individual key depth of 7.2 to 15 millimeters, and the keystroke travel range of said keys is about 0.9 to 6 millimeters.	The key width of EEE PC 900 is not in the range between 7.2 to 13 mm. The key width of Netpal is not in the range between 7.2 to 13 mm. 



From: Peter G Herman [mailto:pgh@TrippScott.com]
Sent: Saturday, September 04, 2010 12:07 AM
To: Jacky Lu(陸國平)
Subject: RE: Dennis patent issue

Jacky, I'm trying to ask you to illustrate ON the figures of the keyboard depicted in the patent the points of measurement, not on a calculator that is not at issue in this case. If you prefer you can illustrate it on the 900 series computer that Asus sells. If you are reluctant to illustrate this in the manner I have requested then we continue to have a disagreement regarding infringement and it will be our desire to proceed to litigation without wasting more time unless Asus has a desire to engage in meaningful settlement discussions. Should we have to file suit would you accept service of process on behalf of Asus? Thanks for your anticipated cooperation.

[redacted]
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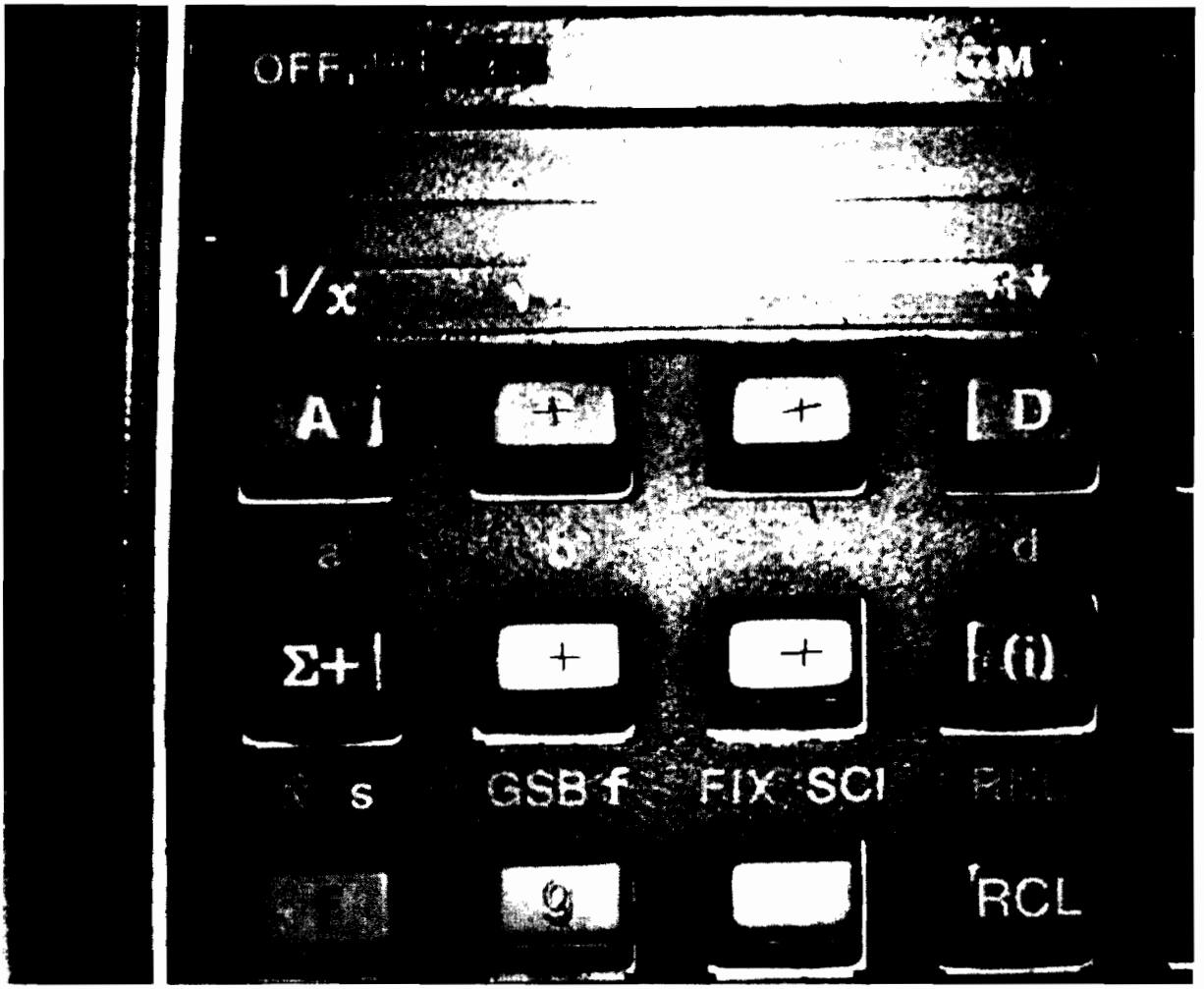
Peter G. Herman
Director

Direct: (954) 760-4913
Fax: (954) 761-8475
PGH@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Friday, September 03, 2010 1:47 AM
To: Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: FW: Dennis patent issue

Dear Peter,

Those red marks show the center points of measured keys in below photo.---Best Regards,
Jacky



From: Peter G Herman [mailto:pgh@TrippScott.com]
Sent: Thursday, September 02, 2010 2:18 AM
To: Jacky Lu(陸國平)
Subject: RE: Dennis patent issue

Jacky, I wasn't asking for the tool used to measure the keyboard, I was interested in the point on the keyboard in which you began physically measuring and where you ended your measurements for all the demensions mentioned in the patent. This can be illustrated by marking those points on the

keyboard figures contained in the patent and attaching same to your responsive email. Thanks.

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Peter G. Herman
Director

Direct: (954) 760-4913
Fax: (954) 761-8475
PGH@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Wednesday, September 01, 2010 2:44 AM
To: Peter G Herman; Alex Brown
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Peter,

The tools we measured the keys on the keyboard include reading vernier caliper and keyboard stroke measuring instrument.

Best Regards,
Jacky

From: Peter G Herman [mailto:pgh@TrippScott.com]
Sent: Wednesday, September 01, 2010 1:53 AM
To: Jacky Lu(陸國平); Alex Brown
Cc: Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Jacky, we have received your infringement analysis regarding the Dennis Nusser patents. Without engaging in lengthy dialog we simply disagree with your analysis. However, It would be helpful for us to understand your position if you could illustrate the manner in which you measured the keys on the keyboard. This can easily be done by using any of the figures depicted in any of the patents. Thanks for your prompt reply.

110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Peter G. Herman
Director

Direct: (954) 760-4913
Fax: (954) 761-8475
PGH@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Monday, August 23, 2010 6:15 AM
To: Alex Brown
Cc: Peter G Herman; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Alex,

As you knew, ASUS are under the obligation to keep supplier's material as confidential , so it's hard for us to disclose all our prior arts and non-infringement arguments to you without any protection clause. Please find the attached non-infringement analysis and invalidation materials are just portion of our current analysis. The other non-infringement analysis and invalidation material may ultimately be revealed by further investigation or discovery.

In order to have an efficiently communication, those attached opinions are use your client' US patents as an example, we tend to think those opinion are also applied to those foreign patents on the same portfolio.

If you have any question, or you need more detail interpretation regarding those opinions in a con-call, we would like to illustrate our opinion for you.

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Saturday, August 21, 2010 3:20 AM
To: Jacky Lu(陸國平)
Cc: Peter G Herman
Subject: RE: Dennis patent issue

Jacky:

It was a pleasure speaking with you this morning. Thank you for accommodating the telephone conference. As promised, this email is being sent to respond to several inquiries you had for us.

In regards to your initial inquiry, and at a bare minimum, we confidently believe that Independent Claims 1 and 20 of the '101 Patent, Independent Claim 1 of the '529 Patent, and Independent Claim 1 of the '209 Patent are/have been infringed by your company's sales of its 700, 800 and 900 series net books; as well as the Asus Disney Netpal books -- and any other versions that may fall within the same keyboard size, which further investigation or litigation discovery may ultimately reveal. Although your inquiry was limited to infringement of the US patents, please be reminded that our client holds a portfolio of foreign patents on the same innovation (all of which was provided to you), and we have secured relationships with law firms abroad to prosecute our client's rights, if necessary.

Second, we have confirmed that there currently does not exist any continuation patent application pending.

Third, we also have confirmed that our client has previously licensed his patents, but is not currently in a licensing relationship with any person or entity.

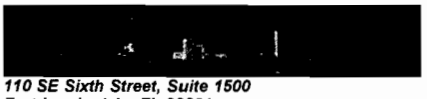
Fourth, we have confirmed that our client would be interested in either a license or sale of his patent rights. However, as to this final point, as we discussed earlier, any negotiation for license or outright sale would require confirmation of various items, *i.e.*, the number of infringing units sold since my client previously placed your company on notice more than two years prior to our firm's cease and desist letter.

We look forward to receiving your infringement analysis, any prior art that you are willing to disclose, and any suggestions for resolution.

Have a great weekend.

Best regards,

Alex



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954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Friday, August 20, 2010 8:07 AM
To: Alex Brown
Cc: Peter G Herman; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Alex,

We are ready and wait for your calling. My number is 886-228943447 ext 2079. Colin will also join the con-call.

Best Regards,
Jacky

From: Jacky Lu(陸國平)
Sent: Friday, August 20, 2010 9:03 AM
To: 'Alex Brown'
Cc: Peter G Herman; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Dear Alex,

It's fine, I will wait for your call duirng 8am and 8:30am (Eastern Std USA time) of Aug. 20th, it should be 8:00 pm of Aug. 20 (Taipei time).

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Friday, August 20, 2010 1:47 AM
To: Jacky Lu(陸國平)
Cc: Peter G Herman; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Jacky, as a follow up to my earlier email, my calendar opened up a bit, so I can probably make the call to you between 8am and 8:30am (Eastern Std USA time), tomorrow (Aug. 20th) as originally proposed by you.

Will call you then....

Alex

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Wednesday, August 18, 2010 9:47 PM
To: Alex Brown
Cc: Peter G Herman; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Alex,

Currently, the Taipei local time is 9:45 A.M of Aug. 19 (Thursday). It seems to me that the time difference between Fort Lauderdale and Taipei is around 12 hours. If we have 12 hours time difference, how about we have the con-call at 8:00 A.M (Eastern Std USA time) of Aug.20 (Friday) or 9:00 P.M (Eastern Std USA time) of Aug.19 (Thursday)?

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Thursday, August 19, 2010 2:09 AM
To: Jacky Lu(陸國平)
Cc: Peter G Herman; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Jacky:

Please let me know what times (on an Eastern Std USA basis) you are available tomorrow or Friday for a telephone call. Either myself, or my partner, Peter Herman, will make ourselves available to accommodate your availability, but please give us as many opportunities as possible.

thanks.

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Tuesday, August 17, 2010 2:52 AM
To: Alex Brown
Cc: Peter G Herman; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Alex,

As your proposal to have a con-call, I am fine to have conference call with you. My number is 886-228943447 ext 2079, you can reach me at the number directly. My desk phone will be transferred to my cell phone if I am not in the office. Or we can schedule a convenient time for both parties to communicate directly.

You seem insist not to have a NDA in place, we can agree not to stuck on this topic. In order to meet no NDA request from you , I tend to think we might disclose some prior arts which acquired or collected from public domain. As to those prior arts from our venders, we are under obligation to keep them confidential , so it's hard for us to disclose it without any protection clause.

As you mentioned, Rule 408 can provide protection from disclosure in many respects during the negotiation and settlement. Indeed, Rule 408 prohibits introducing statements made during those negotiations as evidence in trial.

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Saturday, August 14, 2010 5:40 AM
To: Jacky Lu(陸國平)
Cc: Peter G Herman; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Ms. Lu:

We apparently are having a severe disconnect on this issue, and maybe an immediate telephone conference is in order in a final attempt to get our discussions on track. We simply will not agree to any NDA that will preclude us from using any prior art information outside of our communications. Again, any allegedly invalidating prior art must consist of art that was publicly known at the time of the invention. Nevertheless, you seem to be suggesting, once again, that the term "confidential information" must encompass any and all prior art that you intend to provide us. We cannot agree to such a restriction. Indeed, if/when we file suit, we will inevitably be entitled to discover any purportedly invalidating prior art from you, without a confidentiality agreement. There is no incentive for us to agree to an NDA in light of these facts.

It is hard to fully ascertain, but your email seems to suggest that your company may be inclined to discuss a potential resolution of this matter. If so, as you are aware, settlement communications are protected from disclosure in many respects. To this end, if your client is interested in discussing settlement, Rule 408 should be sufficient to provide it with the sought after comfort.

Please advise where we stand so that we may appropriately advise our client.

Alex

110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Thursday, August 12, 2010 4:13 AM
To: Alex Brown
Cc: Peter G Herman; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue

Dear Alex,

In order to expedite the progress of NDA negotiation, ASUS released a NDA template for your reference. You mentioned several concerns in the previous email, ASUS considered your proposal seriously. So we adopted your proposal to amend the NDA regarding the excluded conditions of "confidential information".

ASUS would like to have a straightforward and sincere communication to clarify the patent issue, so ASUS agreed to disclose our invalidation information to you under the NDA. You proposed to have some exclusion clauses for the definition of "confidential information". Currently, the proposed language already exclude the prior art information. The patent owner might use it to file ASUS information in USPTO, it is not our original expectation and purpose. Do you have any suggestion to amend those exclusion clauses to eliminate both parties' concern?

As to the application law and Venue in Florida, in order to show our good faith, we can agree it. Please refer to the item 13.

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Wednesday, August 11, 2010 12:15 AM
To: Jacky Lu(陸國平)
Cc: Peter G Herman; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue

Ms. Lu:

I appreciate your response yesterday, but am concerned that this process is taking far too long. Given the fruitless results of our efforts, my client is nearing the end in permitting us to attempt to reach resolution with you.

We still reject your proposed agreement. As a preliminary note, having adopted our limiting language that excludes from the definition of 'confidential information', information that is publicly available, I am again at a loss as to the purpose of the proposed NDA. It is our understanding that you wish to disclose prior art to us, which, by its very definition, must consist of art that was publicly available. This make your proposed NDA, with our changes, nonsensical. Additionally, as stated before, we will not agree to the law of China as controlling, nor will we agree to venue lying in China, Taiwan or California (USA). The applicable law will be the laws of the State of Florida, and venue will lie in the Southern District of Florida, the same place the lawsuit will be filed should we be unable to reach a compromise -- which, unfortunately, appears inevitable at this stage.

Please advise me of the purpose of the NDA, and, should you still request to have one in place, please resend a revised version with my stated revisions so that I can review the document in further substantive detail. Again, I will not waste my client's time reviewing a document when we cannot even agree on fundamental provisions.

Your prompt response is appreciated.

Best regards,

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Monday, August 09, 2010 6:13 AM
To: Alex Brown
Cc: Peter G Herman; Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Dear Alex,

In response to your proposed amendment in "confidential information defination", ASUS legal already adopted your suggestion and inputted similar limitations in the attached NDA, please refer to the item 7.

As to the Venue issue, normally we provide Taiwan as the Venue in the standard NDA template . If the counter party wants to change venue to their home, we often propose another place where both sides can accept the laws there, such as California. How about this suggestion?

Should you have any question, please let me know.

Best Regards,
Jacky

From: Jacky Lu(陸國平)
Sent: Sunday, August 08, 2010 7:58 AM
To: Alex Brown

Cc: Peter G Herman; Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Dear Alex,

I already passed your proposed amendments and ASUS template to ASUS legal staff, the legal contact window confirmed to feedback me next Monday. Due to his supervisor is not in the office this week, so the legal can not get the approval from his supervisor. But his suoervisor will back to office next Monday.

I am sorry for the late response, in fact, I am charge of patent issue. The contract still need to be verify by legal department. Any patent relevant issue, I will response you very soon.

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: 2010/8/6 [星期五] 下午 08:18
To: Jacky Lu(陸國平)
Cc: Peter G Herman
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Ms. Lu:

Your abrupt silence is disappointing. We have attempted to work with you towards an amicable resolution over the past several weeks, but now feel that your intentions are to delay the process, rather than to advance a resolution. Please note that should we not hear from you by Monday, August 9, 2010, in substantive form in response to our email dated July 29, 2010 (see below), we have been instructed to proceed with filing a lawsuit against your company. To this end, please advise whether you will accept service of the summons and complaint. Otherwise, we will proceed accordingly pursuant to the Federal Rules of Civil Procedure and Local Rules of the Southern District of Florida.

Best regards,

Alex

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: Alex Brown
Sent: Thursday, July 29, 2010 4:15 PM
To: 'jacky_lu@asus.com'; Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Ms. Lu:

Please forward me a revised version of your proposed NDA. If your team cannot internally agree to my preliminary revisions, then I would rather not waste the time with providing any additional comments I may have on the draft previously sent by you. Also, please send me a version that would allow me to revise.

As to a preliminary conference call to discuss the underlying patent infringement, we are amenable to the same. Please provide me with your availability and I will work to accommodate our schedules accordingly.

Best regards,

110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Monday, July 26, 2010 8:55 PM
To: Alex Brown; Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Dear Mr. Brown,

The proposed NDA is ASUS' template for general purpose usage and We are willing to discuss any amendments, if needed.

You raised two concerns in below email: "confidential" information should have some limitations and the governing law should be negotiated. I will discuss internally regarding these issues. Would you input your revised language, or you want us to send you a new version?

Asustek is open to discuss mentioned patent issue. Before a meeting in person, we propose a conference call as it is more efficient and economical.

Should you have any question, please let me know.

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Wednesday, July 21, 2010 9:04 PM
To: Jacky Lu(陸國平); Peter G Herman
Cc: Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Dear Ms. Lu:

Respectfully, we cannot agree to enter into the proposed NDA. There are several fundamental points that we simply will not stipulate to in any confidentiality agreement. First, "confidential information" cannot include anything and everything, as is currently proposed. Rather, as is the norm, there must be a stipulation that "confidential" information ***does not*** include information which (i) was already in the possession of the Receiving Company prior to disclosure by the Disclosing Company, or (ii) is or becomes generally available to the public

other than as a result of a disclosure by the Receiving Company or its Representatives in violation of this Agreement, or (iii) becomes available to the Receiving Company on a non-confidential basis from a source other than the Disclosing Company or its Representatives, which source to Receiving Company' s knowledge is not prohibited from transmitting the information to the Receiving Company by any legal, contractual or fiduciary obligation, or (iv) is independently developed by the Receiving Company without the use of any confidentially shared information. Absent a limiting clause like this, we cannot agree that any information you deem appropriate to share with us is absolutely confidential.

Furthermore, we simply will not agree to any agreement being governed by the laws of the Republic of China, and will not under any circumstances agree that our exclusive remedy to enforce the agreement is by way of binding arbitration under the rules of arbitration of the Republic of China, which (as proposed) is to be conducted by a single arbitrator in the city of Taipei. Any agreement will be governed by the laws of the State of Florida, and exclusive venue will lie in the Courts of the State of Florida.

There are other fundamental issues with the proposed agreement, but I will not waste time in explaining all of them should we be unable to overcome the issues set forth herein. Please advise us immediately how you wish to proceed. Again, we are willing to make ourselves immediately available for a meeting at our offices, or at a mutually agreeable convenient location, should you wish to discuss this case in person. Otherwise, I am afraid that we are left with no option but to pursue our client's rights in court.

Best regards,

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Monday, July 19, 2010 11:10 PM
To: Alex Brown; Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Dear Mr. Brown,

Thank you for your prompt response. The attached file is our standard NDA for your review and consideration. Should you have any question, please let me know.

Best Regards,
Jacky

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Friday, July 16, 2010 6:16 AM
To: Jacky Lu(陸國平); Peter G Herman
Cc: Vincent Hong(洪崇仁); Colin Huang(黃漢書)
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

Ms. Lu:

As a preliminary matter, please note that I disagree, and reject, your designation of your email correspondence as subject to Rule 408, of

the Federal Rules of Evidence. As you are surely aware, the cited Rule relates to compromises or offers to compromise the matter in suit. Your email does not purport to make any such offer.

Although I appreciate your prior experiences, 'prior art' by its very nature, is something that is known to the public, namely to one skilled in the pertinent art. Hence, my confusion as to why an NDA is necessary, or even appropriate in this instance. Indeed, it would behoove your Company to immediately quell our allegation through the prompt sharing of the prior art you claim to possess. Nevertheless, remaining confident in the strength and validity of our client's internationally issued patents, I invite you to send us a copy of your proposed NDA for our review and consideration. As to the other issue raised in your email, the relevant documentation may be accessed and reviewed by retrieving a copy of the file wrapper on file with the PTO.

Best regards,

110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Associate

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Thursday, July 15, 2010 7:08 AM
To: Alex Brown; Peter G Herman
Cc: Vincent_Hong@asus.com; Colin_Huang@asus.com
Subject: RE: Dennis patent issue--for settlement dicussion purpose only--subject to FRE 408

for settlement dicussion purpose only--subject to FR 408

Dear Mr. Brown,

Thank you for your response.

In your email message, you mentioned that obviousness and anticipation issues were raised and rejected. Please could you provide us with more detailed information?

We are happy that you are willing to discuss the prior arts we have in hand. We believe that the truth becomes clearer after full discussion, and in-depth discussions will improve mutual understanding and solve controversy. However, we are not comfortable sharing prior arts without NDA in place with my personal experience. A few years ago, a Japan company claimed that entire PC industry used her powerful patents. ASUS engineers spent many efforts and time and found a strong prior art. We disclosed the prior art, the Japan company ceased her accusation. Two years, the Japan company approached us again and asserted a continuation patent having the same specification but different cited prior arts and claims. Apparently, the Japan company submitted our prior art with misleading interpretation to USPTO and won the continuation patent; causing it more difficult for us to defend. Without the NDA in place, I hesitate to disclose our best prior arts.

Having the NDA in place will protect both sides and encourage direct and straightforward discussions.

Should you have any concern on entering into a NDA, please let me know. I can sent you our NDA form if you agree.

Best Regards,
Jacky Lu

From: Alex Brown [mailto:adb@TrippScott.com]
Sent: Tuesday, July 13, 2010 9:43 PM
To: Jacky Lu(陸國平); Peter G Herman
Subject: RE: Dennis patent issue

Dear Ms. Lu:

Please excuse the brief delay in our response, as we were traveling on business when you delivered your correspondence. We have reviewed your position of alleged invalidity due to claims of obviousness and anticipation, and vehemently reject the same. Indeed, a similar claim was raised during the prosecution of our client's United States issued patent, and was ultimately rejected by a three member panel at the USPTO. We are very confident at the validity of our client's issued patents.

Nevertheless, we invite you to send us the information upon which you rely for our consideration. Alternatively, we are willing to accommodate a meeting at our offices, or at some other mutually acceptable location, to further discuss this issue and case with you and your company officials. As to your request for an NDA before information is shared, I am certain you understand that *KSR* and its progeny require any claim of obviousness or anticipation to be proven through use of *prior art that was known in the community*. This being the case, I am uncertain as to why an NDA is requested for this sort of transmission of information. Should your company legitimately have such prior art that it claims invalidates our client's internationally issued patents, then there should be no hesitation to share such information with us. As you know, an obviousness claim "cannot be sustained by mere conclusory statements"; rather, you must produce prior art that was *known* at the time of the invention that would serve to render the patented claims invalid.

Please feel free to contact us at your convenience to further discuss this matter. In the meantime, I trust that you appreciate the necessity of affording this matter prompt attention.

Best regards,

[redacted]
110 SE Sixth Street, Suite 1500
Fort Lauderdale, FL 33301
954-525-7500

Alexander D. Brown
Attorney

Direct: (954) 760-4909
Fax: (954) 761-8475
adb@trippscott.com

From: jacky_lu@asus.com [mailto:jacky_lu@asus.com]
Sent: Wednesday, July 07, 2010 5:35 AM
To: Peter G Herman
Cc: Alex Brown
Subject: Dennis patent issue

ASUSTeK COMPUTER INC.
Tel:886-2-28943447, 02-28978887
Fax:886-2-28943449 Sales Fax:02-28967761
No. 150, Li-Te Rd., Peitou, Taipei Taiwan, R.O.C.

Procurement Dept. Fax: 886-2-2894-3482
Sales Dept. Fax: 886-2-2896-7761
Tech. Support Dept. Fax: 886-2-2895-9254
R & D Fax: 886-2-2895-0113
Financial Dept. Fax: 886-2-2894-3324

89. 6. 20,000

VIA EMAIL

Mr. Peter G. Herman

Tel: +1 (954) 760-4913
E-Mail: pdb@tripscott.com

July 1st, 2010

Re: ASUS Eee PC

Dear Mr. Herman,

You letter to Vincent Liu was passed to me as he quitted ASUSTek. Please direct future communication to me regarding this issue.

ASUSTek assigned patent engineers to review the asserted patents immediately following the receipt of Mr. Nusser's letter. The study showed that your asserted patents were obvious in light of KSR Int'l Co, v. Teleflex Inc.. The asserted patents are invalid as well due to existing prior arts that we found.

The recent evolution of the obviousness standard in light of KSR Int'l Co. v. Teleflex Inc. and new version of MPEP gave some exemplary rationales that supports a conclusion of obviousness, for example, "Combining prior art elements according to known methods to yield predictable results", "Simple substitution of one known elements for another", "Use of known technique to improve similar devices (methods, or products) in the same way", "Applying a known technique to a known device (method, or product) ready for improvement to yield predictable results", "Obvious to try" – choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success", "Known work in one field of endeavor may prompt variations of it for use in either the same field or a different one based on design incentives or other market forces if the variations are predictable to one of ordinary skill in the art", "Some teaching, suggestion, or motivation in the prior art that would have led one of ordinary skill to modify the prior art reference or to combine prior art reference teachings to arrive at the claimed invention." Our study showed that your asserted patents were combination of prior art elements according to known methods and were obvious in light of the rationales.

We also located several prior arts, including paper references and material units, which anticipated your patents' claims in light of 35 USC 102. Some used electronic devices purchased from web stores include all elements and limitations in your asserted claims. We are confident that your asserted patents will be invalidated with the prior arts.

We read from Mr. Nusser's email dated May 11th, 2009 that he was interested in discussing the prior arts with us, so Mr. Liu responded that ASUSTek agreed to discuss the prior arts with Mr. Nusser in the email dated May 18th, 2009. It was Mr. Nusser that failed to respond. ASUSTek did not hear from Mr. Nusser,until the email from you. If you are interested in discussing prior arts, we continue to be willing to arrange further discussion under an executed NDA agreement.

Very truly yours,
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