

EXHIBIT 1



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5/12/1999

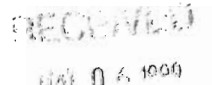
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Box Non-Fee Amendments (patents)
Commissioner of Patents and Trademarks
Washington, D. C. 20231

Attention Patent Examiner: Easthom, K. Group Art Unit: 2832

Re: Patent Application of Brad A. Armstrong

Serial No.: 09/106,825 Filed: 06/29/98



Title: VARIABLE-CONDUCTANCE SENSOR

Applicant's address: Brad A. Armstrong
P.O. Box 1419
Paradise, CA 95967

IN RESPONSE TO THE OUTSTANDING OFFICE ACTION OF 04/26/99

Dear Sir:

REMARKS

This is responsive to the Office Action mailed 04/26/99. Would the Examiner please amend my above specified application as follows, and consider my remarks, followed by reexamining my application in view of this response and find the claims allowable. Thank you.

Regarding the Office Action Summary of the Office Action: This page has been reviewed, and it is noted claims 1-11 are rejected yet pending.

Regarding page 2 of the Office Action and point 1 thereof specifically requesting the elimination of the word "comprising" in the Abstract of the Disclosure: "comprising" will be deleted from the Abstract under the amendments section presented below. The Abstract of the Disclosure as originally filed is less than 250 words.

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AMENDMENTS

In the Abstract of the Disclosure, in the first line thereof, please change "comprising" to --having--. Thank you.

KC
6/16/99

REMARKS

Regarding page 2, point 2 of the Office Action and the 35 U.S.C. 102 quote: this has been read and understood.

Regarding page 2, point 3 of the Office Action: the rejection basis under 35 U.S.C. 102(b) of claims 1-3, 5-6, and 11 as being anticipated by Kambic (IBMTDB) has been carefully read and considered. Applicant respectfully yet strongly disagrees that the Kambic sole figure discloses the claimed invention for the following reasons.

Firstly: The present claims 1-3, 5-6, and 11 ALL include a dome-cap specifically for creating and providing the human user a tactile feedback, whereas, Kambic is clearly trying to make sure that "if" there exists any clicking or the like such as "might" be produced by the Kambic spring 8, that the clicking or the like does not reach the user as a tactile sensation. Note: there is no mention in Kambic of a tactile feedback or clicking or the like being produced in his spring 8 of the On/Off switch. Kambic locates an air bag 10 between the spring 8 and key button 3, and then states that the air bag is like "conventional plastic packaging materials", see Kambic page 2. Packaging materials conventionally serve to eliminate or dampen vibration, therefore one can only conclude that Kambic is trying to make sure the user's finger is isolated from any possible tactile feedback. It appears Kambic is trying to create a structure for providing a sensation of typing-on-air, therefore Kambic's "feedback enhancement" must be the diminishment or elimination of any

possible tactile feedback from the switching mechanism.

Therefore, Kambic is teaches away from, or opposite to, the present invention regarding tactile feedback. Thus, Kambic does not teach, anticipate or suggest the invention as claimed, but rather, teaches away from this important aspect.

Secondly: The present claims 1-3, 5-6, and 11 ALL include pressure-sensitive variable-conductance material which alters the conductivity thereof through a range dependant on force applied thereto so that the sensor has or is structured to provide a variable electrical output, i.e. analog output, and it is most clear from the specification that this does not mean varying from OFF to ON only, as in an On/Off switch such as that of Kambic. Based on the Kambic disclosure, it is quite clear that the Kambic "KEYBOARD SWITCH" (see Kambic title) is an ON or OFF only switch used in a "conventional row and column encoding matrix" (see Kambic line 7), which are always, especially if "conventional", structured to use only switching devices which provide either an OFF or an ON state, but never a variable or analog electrical output. The present invention provides "analog electrical output proportional to the applied pressure", see specification, page 15, lines 11-12, and other places in the specification.

There is no indication in the Kambic document that the material 7 is capable of anything other than ON or OFF electrical states (conducting and not conducting), and no indication that the material 7 of the keyboard switch of Kambic is analog capable. Kambic states material 7 "conducts vertically but not laterally", see Kambic line 9, indicating Kambic is only interested in whether material 7 conducts or does not conduct. The Kambic material 7 is "laterally conducting when it is compressed" see line 11, thus clearly Kambic is only interested whether material 7 conducts or does not conduct between contact 4 and 5 as a simple ON/OFF only keyboard switch.

In summary, firstly, Kambic teaches away from the tactile feedback aspect of the present claims as discussed above, and

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secondly, Kambic does not show or describe a sensor capable of variable (analog) electrical output. Thus, the invention of claims 1-3, 5-6, 11 is not anticipated by Kambic, and therefore withdrawal of the 35 U.S.C. 102(b) rejection is respectfully solicited.

Regarding page 2, point 4 of the Office Action and the 35 U.S.C. 103(a) quote: this has been read and understood.

Regarding page 2 bridging page 3, point 5 of the Office Action and the rejection of claims 4 and 7-10 under 35 U.S.C. 103(a) as being unpatentable over Kambic (IBMTDB) in view of Fujita: For the reasons provided above regarding the 35 U.S.C. 102 rejection, Kambic discloses little related to the present claimed invention of claims 4 and 7-10, and Fujita provides little or nothing more than exposed terminals and a plastics housing to the Kambic disclosure in terms of suggesting or teaching the instant claimed invention, and therefore withdrawal of the 35 U.S.C. 103(a) rejection of claims 4 and 7-10 is respectfully requested.

Regarding page 3, point 6 of the Office Action: the prior art of record and not relied upon, Murata, Parsons, Teruo, Gilano, Hyodo, Tsuji et al, Nestor, Brandenburg et al, Kramer, and Pine et al do disclose variable resistors or switches, but after a careful reading of the respective documents, none singularly or in combination suggest or teach the present invention, and additionally, it appears some of the documents teach away from the present invention.

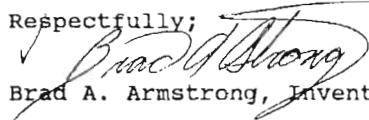
In view of my remarks in favor of allowance, would the Examiner please reexamine my application and find claims 1-11 allowable over the prior art, thank you.

I hereby declare that all statements made herein of my own

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knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Respectfully;

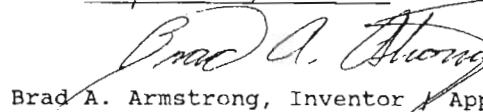
 Date: April 30, 1999
Brad A. Armstrong, Inventor / Applicant

CERTIFICATE OF MAILING

Commissioner of Patents and Trademarks
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date: April 30, 1999.


Brad A. Armstrong, Inventor / Applicant