

Patent Owner Global Touch Solutions, LLC Demonstratives

IPR 2015-01148
US Patent No. 7,498,749 B2

August 4, 2016

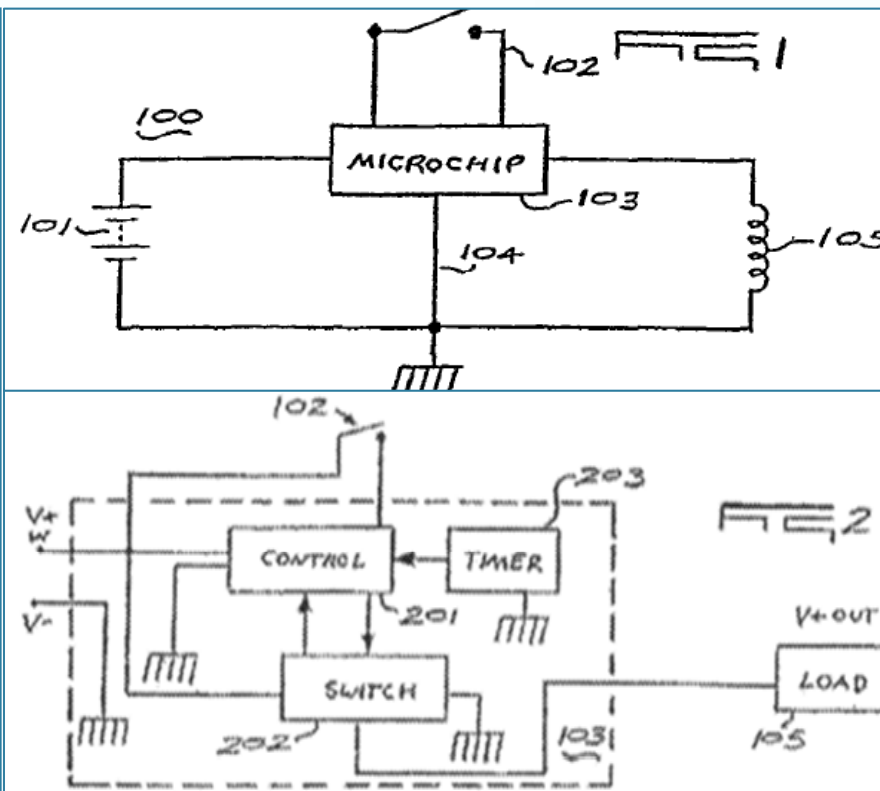
Instituted Grounds

- **Ground 1:** Claims 1, 2, 5–7, 14, 15, 21, and 23 are rendered obvious under 35 U.S.C. § 103(a) over U.S. Patent No. 6,125,286 ("Jahagirdar") (Exhibit 1004) in view of U.S. Patent No. 4,053,789 ("Schultz") (Exhibit 1005).

Institution Decision (Paper 12) at page 10

'749 Patent: Overview

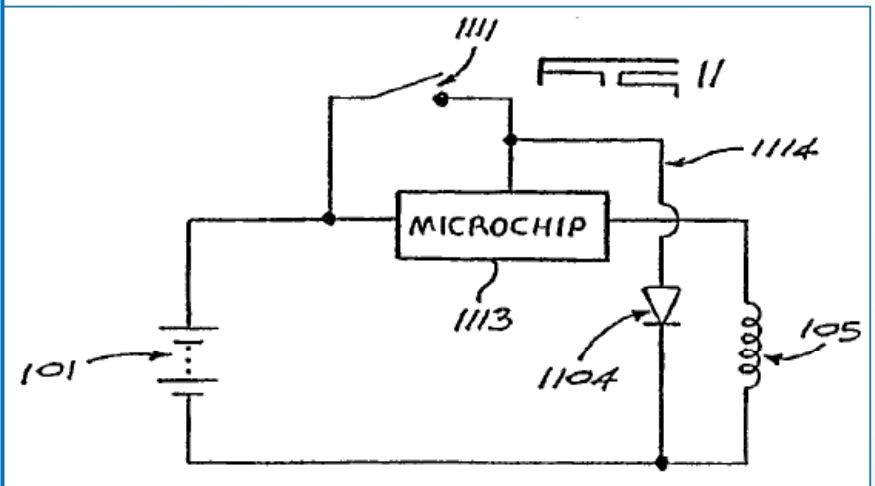
The structure and operational parameters of such a microchip 103 are explained in greater detail below with respect to FIG. 2. As shown in FIG. 1, power is supplied to microchip 103 by power source 101. When an operator activates input switch 102 to the "on" position it represents a command which is communicated to microchip 103. Input means 102 requires very low current in preferred embodiments. In one embodiment of the invention, microchip control/reset means 201 simply allows the current switch 202 to pass current provided from power source 101 to load 105 in an unimpeded manner when the MMI switch 102 is activated, and, in the case of a flashlight, illumination is obtained. It is important to recognize, however, that it is control circuit 201 which activates current switch 202 upon acting on an input from MMI switch 102. Unlike heretofore known prior art devices, activating switch 102 does not conduct current to load 105, but is only a command input mechanism which can, according to the invention, operate on very low current. For example, according to the invention, touch sensor input or carbon coated membrane type switch devices are preferred.



FIGS. 1 and 2 of '749 (Exhibit 1001) and col. 6, line 65 – col. 7, line 17


'749 Patent: Overview

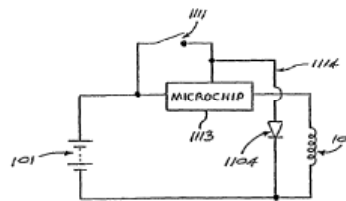
According to another embodiment of the present invention, an output may be provided to indicate a condition, e.g. a battery is in good or bad condition. It may also be suitable to assist in locating a device, e.g. but not limited to a flashlight, in the dark. This may be a separate output pin or may be, according to another embodiment, shared with the MMI switch input. (See FIG. 11) This output or indicator may be a LED. Referring to FIG. 11, indicator/output device 1104 may, for example, be an LED. When microchip 1113 pulls the line 1114 to high, the LED 1104 shines. LED 1104 may also shine when switch 1111 is closed by the user. However, since that is only a momentary closure, this should not create a problem.



'749 (Exhibit 1001) at col. 9, lines 32-43;

'749 Patent: Claim 1

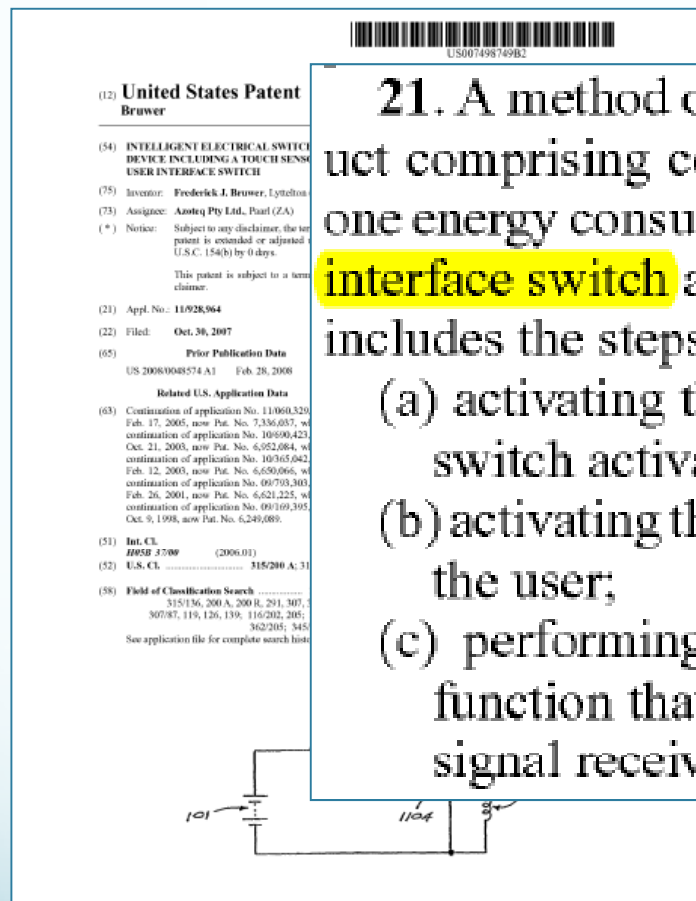
 US007496749B2	
(12) United States Patent Bruwer	(10) Patent No.: US (45) Date of Patent:
(54) INTELLIGENT ELECTRICAL SWITCHING DEVICE INCLUDING A TOUCH SENSOR USER INTERFACE SWITCH	
(75) Inventor: Frederick J. Bruwer, Lytleton (ZA)	
(73) Assignee: Aantq Pty Ltd., Paarl (ZA)	
(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 156(b) by 0 days.	
This patent is subject to a terminal disclaimer.	
(21) Appl. No.: 11/926,964	
(22) Filed: Oct. 30, 2007	
(65) Prior Publication Data US 2008/0048574 A1 Feb. 28, 2008	
Related U.S. Application Data	
(63) Continuation of application No. 11/060,320, filed on Feb. 17, 2005, now Pat. No. 7,336,057, which is a continuation of application No. 10/990,423, filed on Oct. 21, 2003, now Pat. No. 6,952,084, which is a continuation of application No. 10/365,042, filed on Feb. 12, 2003, now Pat. No. 6,650,066, which is a continuation of application No. 09/793,303, filed on Feb. 26, 2001, now Pat. No. 6,621,225, which is a continuation of application No. 09/169,395, filed on Oct. 9, 1998, now Pat. No. 6,249,089.	
(51) Int. Cl. H05B 37/00 (2006.01)	
(52) U.S. Cl. 315/200 A; 315/200 R; 315/291	
(58) Field of Classification Search 315/136, 200 A, 200 R, 291, 307, 360, 362, 367/87, 119, 126, 139, 116/202, 205, 362/202, 362/205, 345/173, 175	
See application file for complete search history.	
(56) References Cited U.S. PATENT DOCUMENTS 2,338,078 A 12/1943 Wood ... (Continued) FOREIGN PATENT DOCUMENTS DE 3225557 1/1994 (Continued) OTHER PUBLICATIONS Operations and Maintenance Manual for ET by Technology Association Inc., including a representative of Technology Association Inc., Modern Dictionary of Electronics, Novena International Search Report from PCT/ZA/07/001, Kachal Consulting Group, Inc., P.M. Search materials, www.pocketgifs.com/pal.asp, p. (Continued)	
(57) ABSTRACT The present invention, according to a first aspect, is directed to portable electronic devices including power sources, for example, tronic devices of the present invention include a signal switch and a microchip in communication with the switch wherein the switch is only capable of sending a signal to the microchip that the switch is deactivated. The microchip is in communication with a power source of the device to perform one or more functions of the device in response to a signal from the switch.	



1. An electronic unit for use with a product comprising connections for a power source and at least one energy consuming load, said unit comprising:

- (a) a microchip connected to a user interface switch structure, said structure comprising at least one switch, being a touch sensor type switch that includes a sense pad;
- (b) a visible indicator controlled by the microchip to provide at least an indicator activation function when a signal is received through said user interface switch, wherein the indicator is active when the load is not activated by the user;
- (c) wherein the microchip at least partially implements the touch sensor switch and the user interface has at least one of:
 - (i) an automatic delayed deactivation of a function a predetermined period after the function was activated with an activation command received from the touch sensor switch;
 - (ii) the indicator, in response to the microchip receiving a user interface switch signal, activated to indicate conditions of the product; and
 - (iii) a touch sensor switch sense pad being integral with a housing of the product.

'749 Patent: Claim 21

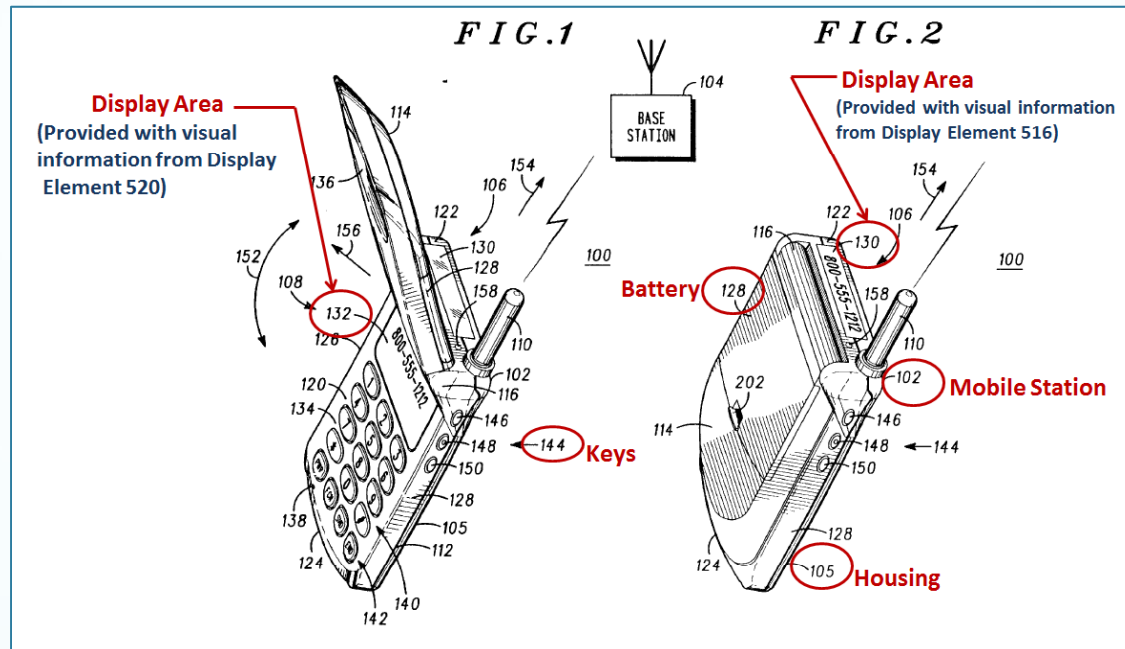


21. A method of implementing a user interface for a product comprising connections for a power supply and at least one energy consuming load, using at least a touch sensor user interface switch and a visible indicator, wherein the method includes the steps of:

- (a) activating the indicator in response to a user interface switch activation signal;
- (b) activating the indicator when the load is not activated by the user;
- (c) performing an automatic delayed deactivation of a function that was activated in response to an activation signal received via the user interface switch.

Jahagirdar in View of Schulz: Claims 1 and 21

“a touch sensor type switch/using at least a touch sensor user interface switch”



Ex. 1004 (Jahagirdar) at FIGs. 1 and 2, annotated at Pet. (Paper 2) at 27

- Issue: Would it have been obvious to replace push-button keys 144 with touch sensor disclosed in Schultz?

Jahagirdar in View of Schulz: Claims 1 and 21

“a touch sensor type switch/using at least a touch sensor user interface switch”

- Issue: Would it have been obvious to replace push-button keys 144 with touch sensor disclosed in Schultz?
- Petitioner:

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Microsoft Corpora
Petit
Global Touch
Patent
IPR201
Patent 7
PETITION FOR INT

One of ordinary skill in the art would have been motivated to combine the features of Schultz with the method and system of Jahagirdar to arrive at claim 1 of the '749 patent, (1) to minimize accidental actuation; (2) to eliminate the problems of contamination and mechanical failures associated with switches having moving parts; and (3) to enhance convenience and aesthetics for the user. *Id.* at ¶ 58.

Pet. (Paper 2) at 30; PO Response (Paper 17) at page 6

Jahagirdar in View of Schulz: Claims 1 and 21

“a touch sensor type switch/using at least a touch sensor user interface switch”

- Issue: Would it have been obvious to replace push-button keys 144 with touch sensor disclosed in Schultz?
- Petitioner:

UNITED STATES PATENT AND TRADEMARK OFFICE	
BEFORE THE PATENT TRIAL AND APPEALS BOARD	
Microsoft Corporation and Petitioners	Moreover, as the Supreme Court has stated, “when a patent simply arranges
v.	old elements with each performing the same function it had been known to perform
Global Touch Solutions Patent Owner	and yields no more than one would expect from such an arrangement, the
IPR2015-01148 Patent 7,498,748	combination is obvious.” <i>KSR</i> , 550 U.S. at 417 (internal quotations omitted).
PETITION FOR INTER PARTES REVIEW	Pet. (Paper 2) at page 34

Jahagirdar in View of Schulz: Claims 1 and 21

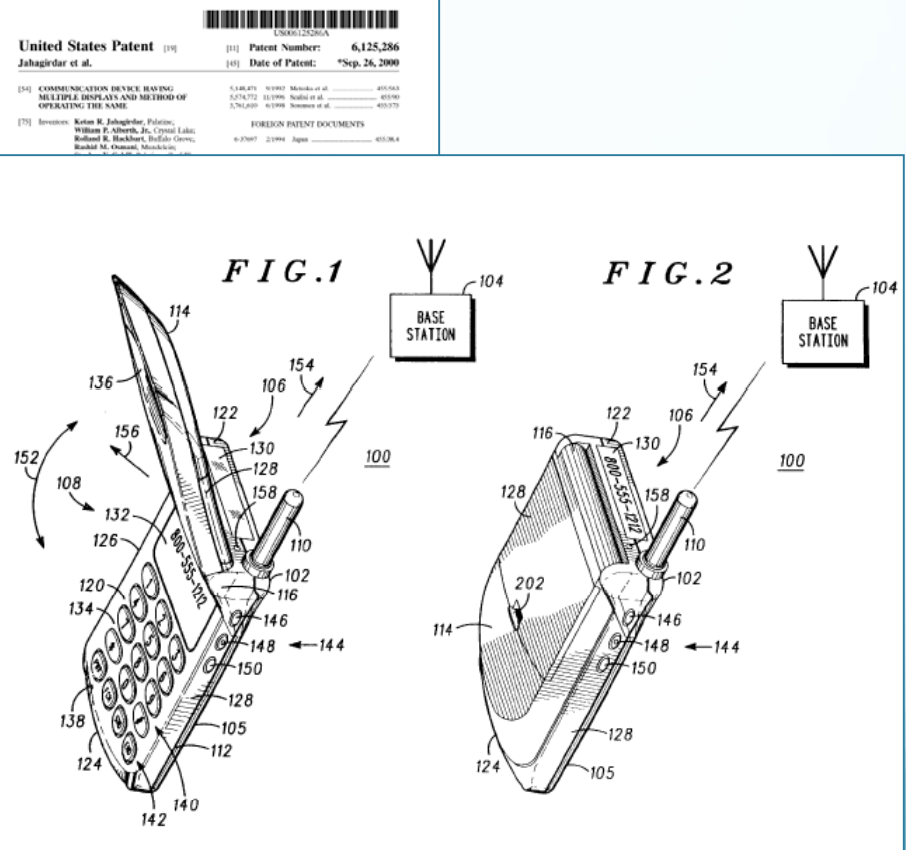
“a touch sensor type switch/using at least a touch sensor user interface switch”

(1) *"The touch sensor of Schultz would not (1) minimize accidental actuation"* PO Response (Paper 17) at page 6

Paper _____
UNITED STATES PATENT AND TRADEMARK OFFICE

58. There seems to me to be little reason to combine Schulz with Jahagirdar, and good reasons not to combine them. While the suggestion is made that such a combination would “minimize accidental actuation” Decision, page 6, in fact quite the opposite would happen. Bear in mind that several keys are located on an exterior edge of the housing of Jahagirdar’s phone. Indeed, to answer a call in step 832 of Fig. 8b, one must grasp the housing and change the position of the flap to “open” the phone. There are a number of keys 144 on the exterior of the housing of the phone. If these keys were converted to the touch sensors of Schultz, they would inevitably be initiated by accidental touches from the hand of the operator while attempting to open the flap of the phone.

Dec. of Robert Morley (Exhibit 2005) at para. 58



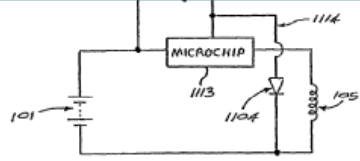
FIGS. 1 and 2 of Jahagirdar (Exhibit 1004)

Jahagirdar in View of Schulz: Claims 1 and 21

“a touch sensor type switch/using at least a touch sensor user interface switch”

(2) *The touch sensor of Schultz would not (2) eliminate the problems of contamination/mechanical failure*

PO Response (Paper 17) at pages 8 and 9

<p>Paper _____</p> <p>UNITED STATES PATENT AND TRADEMARK OFFICE</p>	<p>US007498749B2</p> <p>(12) United States Patent Bruwer</p> <p>(10) Patent No.: US 7,498,749 B2 (45) Date of Patent: *Mar. 3, 2009</p> <p>(54) INTELLIGENT ELECTRICAL SWITCHING DEVICE INCLUDING A TOUCH SENSOR USER INTERFACE SWITCH</p> <p>(56) References Cited U.S. PATENT DOCUMENTS 2,338,079 A 12/1945 Wood 240:10:66</p> <p>(75) Inventor: <i>Kristofek, L. Bruce, Jonathan (CA)</i></p>
<p>66. Indeed, by the filing date of the '749 patent, membrane switches had become the subject of inexpensive methods of manufacturing, and were commonly employed in environments such as that of Jahagirdar. See for example, U.S. Patents 4,391,845 and 4,602,135, Exhibits 2003 and 2004 hereto. I can see no reason why one of skill in the art would replace the pushbutton keys of Jahagirdar with touch sensors subject to inadvertent or unintended activation, when the alternative of membrane switches was clearly available and preferable, if the issues of contamination, prolonged use and inadvertent activation were of concern.</p>	<p>Referring now to FIG. 4, utilizing the circuits in the microchip of some embodiments of the present invention, carbon coated membrane or touch pad type switches are preferred. Carbon coated membrane switches and touch pad switches have many advantages over conventional high current switches, such as those currently used in flashlights. According to the present invention, carbon coated membrane type switches, low current type switches, and touch pad type switches can be used which may be smaller, less costly, easier to seal, and less vulnerable to corrosion and oxidation than conventional switches which also transfer energy or current to the load. Moreover, according to one embodiment of the</p>
<p>Exhibit 2005 Microsoft Corporation and Microsoft Mobile, Inc. v. Global Touch Solutions, LLC IPR2015-01148</p>	

Dec. of Robert Morley (Exhibit 2005) at para. 63

'749 (Exhibit 1001) at col. 7, line 66 to col. 8, line 10; Dec. of Robert Morley (Exhibit 2005) at para. 64

11

Jahagirdar in View of Schulz: Claims 1 and 21

“a touch sensor type switch/using at least a touch sensor user interface switch”

(3) *"The touch sensor of Schultz would not (3) enhance convenience and aesthetics for the user"*

PO Response (Paper 17) at pages 8 and 10

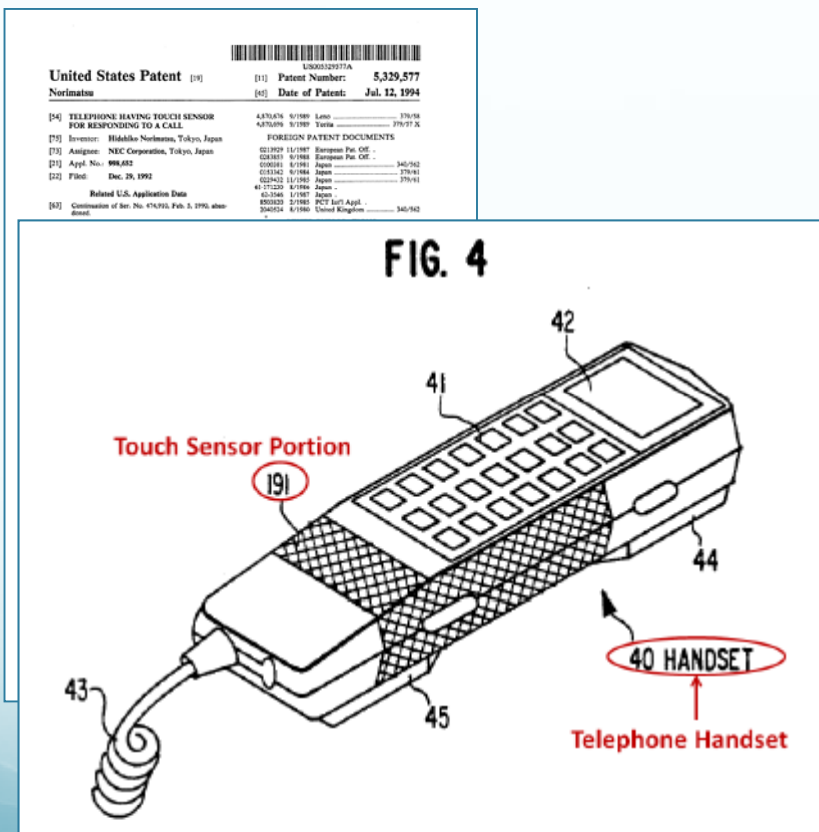
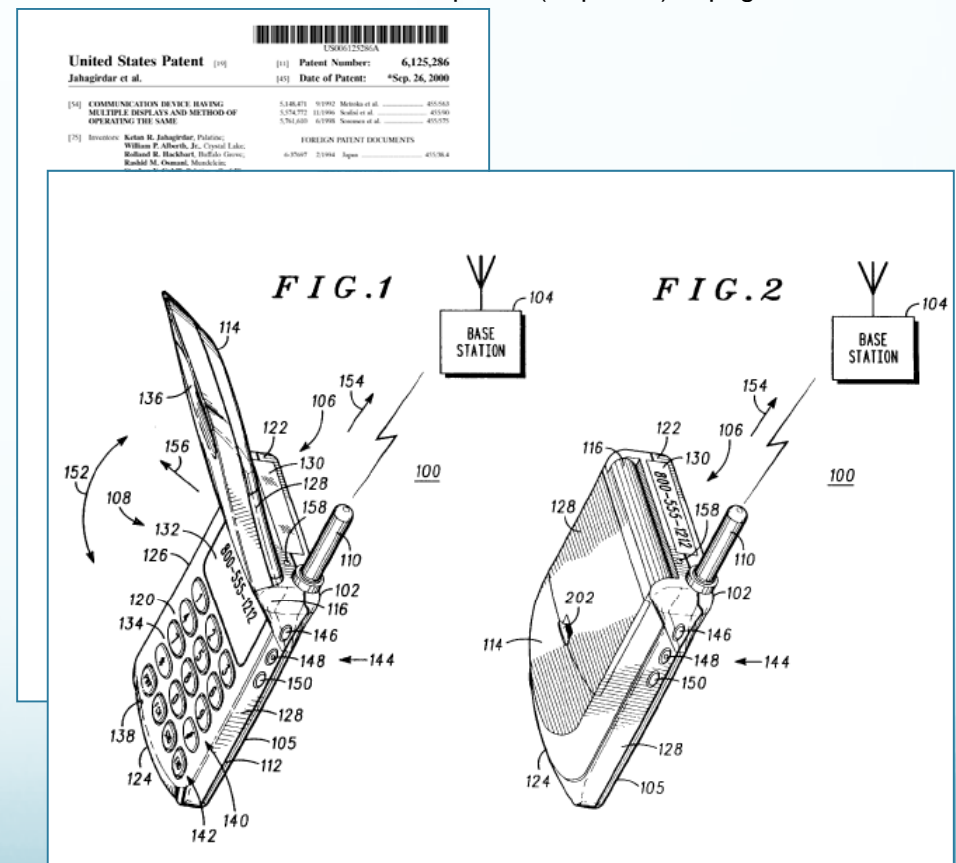


FIG. 4 of Norimatsu (Exhibit 1006), annotated in Pet. (Paper 2) at page 33



FIGS. 1 and 2 of Jahagirdar (Exhibit 1004)

Jahagirdar in View of Schulz: Claims 1 and 21

“a touch sensor type switch/using at least a touch sensor user interface switch”

(3) *"The touch sensor of Schultz would not (3) enhance convenience and aesthetics for the user"*

PO Response (Paper 17) at
pages 8 and 9

United States Patent [19]
Roudeski

[11] Patent Number: 4,764,708
[45] Date of Patent: Aug. 16, 1988

[54] TOUCH CONTROL LAMP SOCKET
INTERIOR

[76] Inventor: Charles A. Roudeski, 97 Willow
Wood Cir., Urbana, Ohio 43078

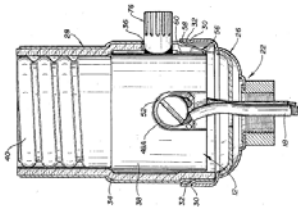
[21] Appl. No.: 790,827
[22] Filed: Dec. 8, 1986

[31] Int. Cl.: H01L 25/70, H01L 17/24
[32] U.S. Cl.: 315/72, 315/149, 315/162, 315/420A, 315/420B, 315/420C, 315/420D, 315/420E

Primary Examiner—David K. Moore
Assistant Examiner—Mark R. Powell
Attorney, Agent, or Firm—Kilworth, Gottman, Hagan
& Schaff

[57] ABSTRACT
An electric touch control light socket used to convert a lamp to touch-sensitive use which includes a circuit housing and a light bulb insertion socket mounted thereto which together are adapted for installation within a standard light socket shell of a lamp in place of a standard light socket. A touch sensing circuit in the circuit housing has a self-compensating subcircuit to eliminate the effects of electric discharge and other events.

lamp's metallized body parts. Touch controls are quick and convenient, and especially ideal for pre-schoolers and physically disabled persons, such as arthritics, who find it difficult, in view of their limited dexterity, to operate **conventional light switches**.



MICROSOFT EXHIBIT 1009

Roudeski (Exhibit 1009) at 1:16-20; Pet. (Paper 2) at
pages 33 and 34

United States Patent [19]
Jahagirdar et al.

[11] Patent Number: 6,125,286
[45] Date of Patent: *Sep. 26, 2000

[54] COMMUNICATION DEVICE HAVING
MULTIPLE DISPLAYS AND METHOD OF
OPERATING THE SAME

[75] Inventors: Kanan R. Jahagirdar, Palatine;
William F. Albrecht, Jr., Crystal Lake;
Robert R. Backlund, Buffalo Grove;
Randall M. Osmund, Mundelein;
Stephen V. Candi, Palatine, all of IL

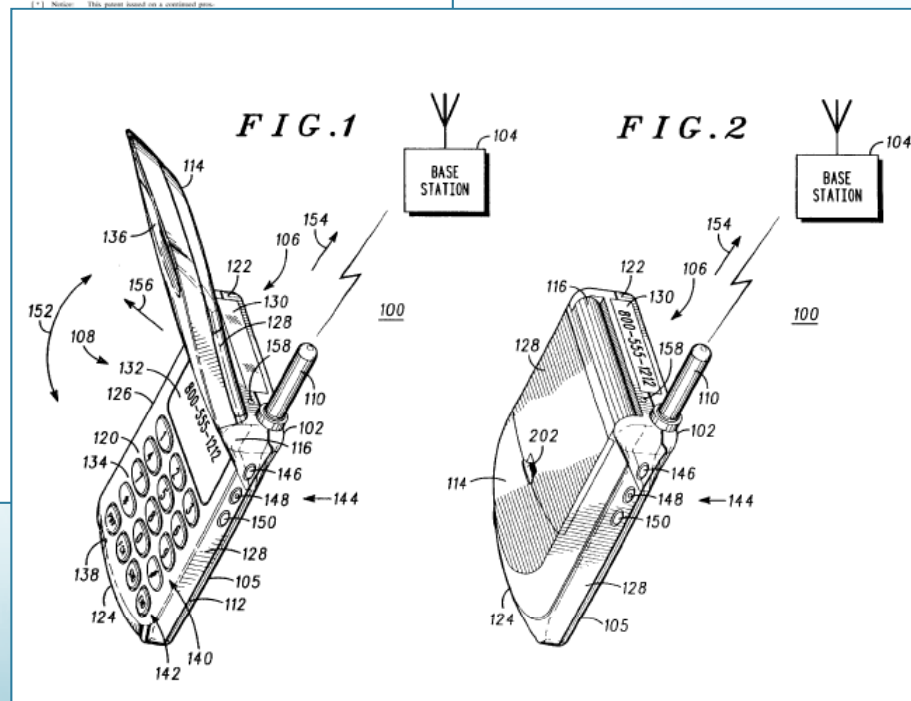
[73] Assignee: Motorola, Inc., Schaumburg, IL

[*] Notice: This patent issued on a continued prosecution.

5,148,475 9/1992 Matsuda et al. 455,543
5,274,772 11/1993 Saito et al. 455,550
5,764,000 9/1998 Swenson et al. 455,579

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6-27807 2/1994 Japan 455,584

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Motorola Product, RVPF FLEX Numeric Pager, 1995.



FIGS. 1 and 2 of Jahagirdar (Exhibit 1004)

13

Jahagirdar in View of Schulz: Claims 1 and 21

"...when the load is not activated..."

1. An electronic unit for use with a product comprising connections for a power source and at least one energy consuming load, said unit comprising:

- (a) a microchip connected to a user interface switch structure, said structure comprising at least one switch, being a touch sensor type switch that includes a sense pad;
- (b) a visible indicator controlled by the microchip to provide at least an indicator activation function when a signal is received through said user interface switch, wherein the indicator is active when the load is not activated by the user;
- (c) wherein the microchip at least partially implements the touch sensor switch and the user interface has at least one of:
 - (i) an automatic delayed deactivation of a function a predetermined period after the function was activated with an activation command received from the touch sensor switch;
 - (ii) the indicator, in response to the microchip receiving a user interface switch signal, activated to indicate conditions of the product; and
 - (iii) a touch sensor switch sense pad being integral with a housing of the product.

21. A method of implementing a user interface for a product comprising connections for a power supply and at least one energy consuming load, using at least a touch sensor user interface switch and a visible indicator, wherein the method includes the steps of:

- (a) activating the indicator in response to a user interface switch activation signal;
- (b) activating the indicator when the load is not activated by the user;
- (c) performing an automatic delayed deactivation of a function that was activated in response to an activation signal received via the user interface switch.

- Issue: Is the Display Element 516/130 of Jahagirdar activated when the display element 520/132 is not activated?

Jahagirdar in View of Schulz: Claims 1 and 21

“...when the load is not activated...”

Activation and deactivation

Paper _____	
UNITED STATES PATENT AND TRADEMARK OFFICE	
BEFORE THE PATENT TRIEBUNAL	70. What has happened is that Petitioners have mixed up
MICROSOFT CORPORATION Petitioner	“activation” with “transmit data to.” Activation is a term used in the claims
GLOBAL TOUCH Patent	of the ‘749 Patent to mean on/off. It is always used in that fashion. See,
Case IPB Patent No.	e.g., Col. 4, ll. 15–31. Activation, in the claims of the ‘749 Patent, occurs
	when something is turned on.
DECLARATION OF ROBERT E. MORLEY, JR.	Dec. of Robert Morley (Exhibit 2005) at para. 70
Global Touch Solutions, LLC Exhibit 2005 Microsoft Corporation and Microsoft Mobile, Inc. v. Global Touch Solutions, LLC IPR2015-01148	

Jahagirdar in View of Schulz: Claims 1 and 21

"...when the load is not activated..."

Activation and deactivation

US007498749B2

(12) United States Patent
Brewer

(10) Patent No.: US 7,498,749
(45) Date of Patent: 12/19/04

(54) INTELLIGENT ELECTRICAL SWITCHING DEVICE INCLUDING A TOUCH SENSOR USER INTERFACE SWITCH

(75) Inventor: Frederick J. Brewer, Lynelton (ZA)

(73) Assignee: Anateq Pty Ltd., Paarl (ZA)

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

This patent is subject to a terminal disclaimer.

(21) Appl. No.: 10/928,964

(22) Filed: Oct. 30, 2007

(65) Prior Publication Data
US 2008/0048574 A1 Feb. 28, 2008

Related U.S. Application Data

(63) Continuation of application No. 11/060,320, filed on Feb. 17, 2005, now Pat. No. 7,336,697, which is a continuation of application No. 10/690,423, filed on Oct. 21, 2003, now Pat. No. 6,952,684, which is a continuation of application No. 10/365,642, filed on Feb. 12, 2000, now Pat. No. 6,650,066, which is a continuation of application No. 09/703,300, filed on Feb. 26, 2001, now Pat. No. 6,621,225, which is a continuation of application No. 09/169,395, filed on Oct. 9, 1998, now Pat. No. 6,249,669.

(51) Int. Cl. H05B 37/00 (2006.01)

(52) U.S. Cl. 315/200 A; 315/200 R; 315/129; 315/136; 200 A; 200 R; 201; 307; 360; 362; 367/87; 119; 126; 139; 116/202; 205; 362/262; 362/205; 345/173; 175

(58) Field of Classification Search 315/200 A; 200 R; 201; 307; 360; 362; 367/87; 119; 126; 139; 116/202; 205; 362/262; 362/205; 345/173; 175

See application file for complete search history.

25 Claims, 6 Drawing Sheets

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(Continued)

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(Continued)

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(Continued)

Primary Examiner—David Hung Yu
Assistant Examiner—Tang X Li
(74) Attorney, Agent, or Firm—Baker Botts

(57) ABSTRACT

The present invention, according to a preferred embodiment, is directed to portable electronic devices having a microchip controlled switch. For example, the present invention is directed to a portable electronic device comprising a microchip controlled switch and a microchip in communication with the switch wherein the switch is only capable of selecting one function of the flashlight, a microchip for controlling at least the on/off function and one other function of the flashlight, wherein the microchip control circuit may further comprise a control-reset means, a clock means, a current switch, and/or any one or combination of the same.

According to one embodiment of the invention, an intelligent flashlight, having a microchip controlled switch is provided comprising a microchip for controlling the on/off function and at least one other function of the flashlight. According to a further embodiment of the invention, an intelligent flashlight having a microchip controlled switch is provided comprising an input means for sending activating/deactivating signals to the microchip, and a microchip for controlling the on/off function and at least one other function of the flashlight. According to a further embodiment of the invention, there is provided an intelligent flashlight having a microchip controlled switch comprising an input means for selecting one function of the flashlight, a microchip for controlling at least the on/off function and one other function of the flashlight, wherein the microchip control circuit may further comprise a control-reset means, a clock means, a current switch, and/or any one or combination of the same.

Dec. of Robert Morley (Exhibit 2005) at para. 70

Jahagirdar in View of Schulz: Claims 1 and 21

"...when the load is not activated..."

Activation and deactivation

UNITED STATES PATENT AND
BEFORE THE PATENT TRIAL
MICROSOFT CORPORATION and
Petitioner
v.
GLOBAL TOUCH SOLUTIONS, LLC
Patent Owner
Case IPR2015-01148
Patent No. 7,491,118
DECLARATION OF ROBERT MORLEY

71. It is easy to see the argument that Jahagirdar (Schultz provides no aspect of this analysis) teaches activation of the indicator (display 516) when the load is not active rests on this confusion of terms. Display 516 is turned on, activated, at step 802. Many steps later, step 814 involves detection of *actuation* of key 150, which causes the controller to send new information to the already activated display 516. Jahagirdar, Col. 5, ll. 54–57. Indeed, the reference itself makes it clear that this step is not turning the display (indicator) off or on, but rather, involves providing “new visual information” for the already active display. Col. 5, ll. 56–57.

Exhibit 2005
Microsoft Corporation and Microsoft
Mobile, Inc.
v. Global Touch Solutions, LLC
IPR2015-01148

Dec. of Robert Morley (Exhibit 2005) at para. 71

Jahagirdar in View of Schulz: Claims 1 and 21

"...when the load is not activated..."

Issue: Is the Display Element 516/130 of Jahagirdar activated when the display element 520/132 is not activated?

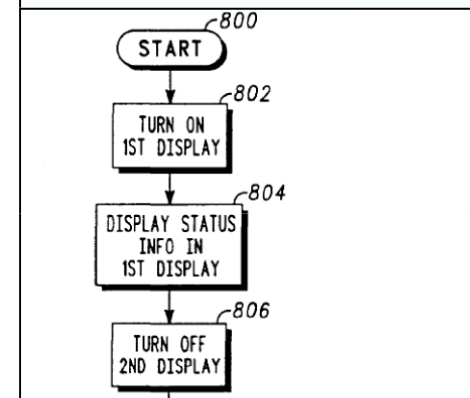
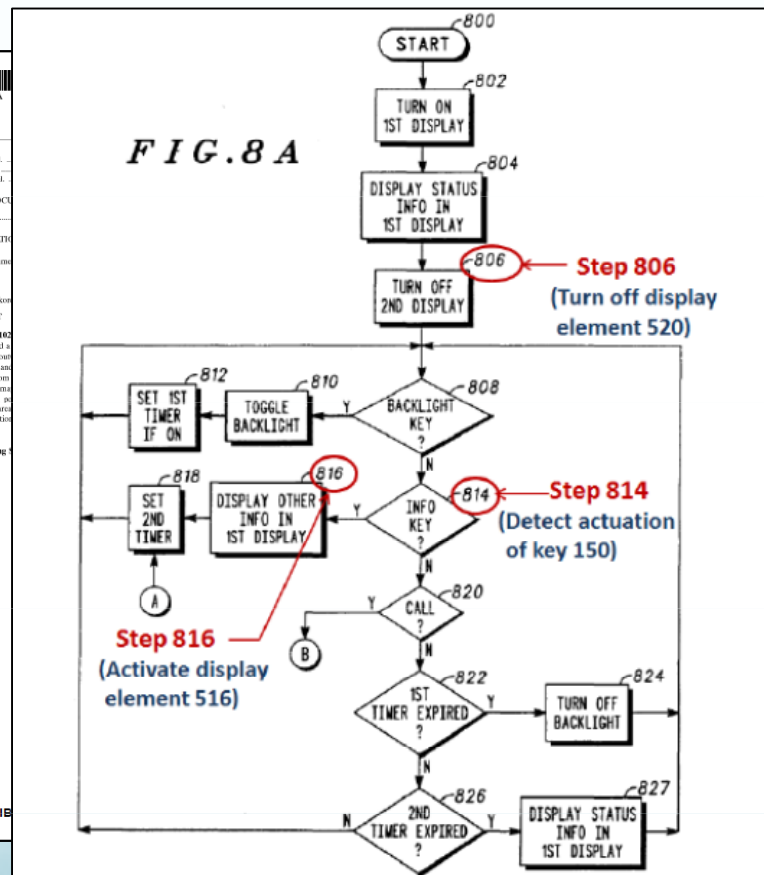
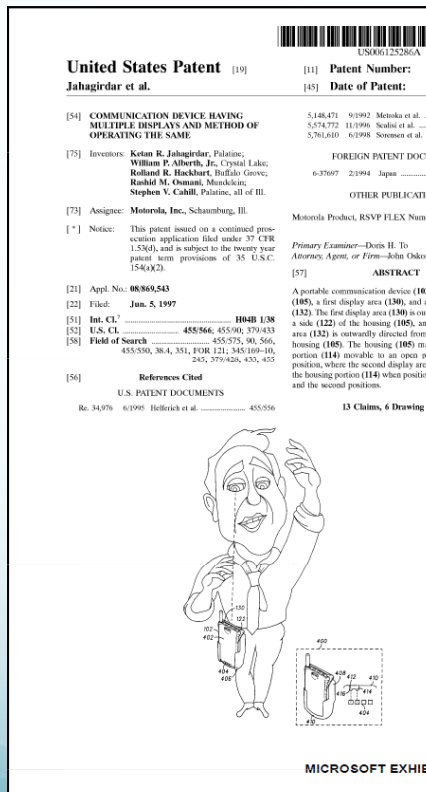


FIG. 8A of Jahagirdar (Exhibit 1004), annotated in Pet. (Paper 2) at page 38; PO Response (Paper 17) at page 13

END