

# **Basic Requirements of a Prima Facie Case of Obviousness**

The key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in KSR noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.

### **1. Combining Prior Art Elements According to Known Methods To Yield Predictable Results**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;
- (2) a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely performs the same function as it does separately;
- (3) a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable; and
- (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

### **2. Simple Substitution of One Known Element for Another To Obtain Predictable Results**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the prior art contained a device (method, product, etc.) which differed from the claimed device by the substitution of some components (step, element, etc.) with other components;
- (2) a finding that the substituted components and their functions were known in the art;
- (3) a finding that one of ordinary skill in the art could have substituted one known element for another, and the results of the substitution would have been predictable; and
- (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

### **3. Use of Known Technique To Improve Similar Devices (Methods, or Products) in the Same Way**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the prior art contained a "base" device (method, or product) upon which the claimed invention can be seen as an "improvement;"
- (2) a finding that the prior art contained a "comparable" device (method, or product that is not the same as the base device) that has been improved in the same way as the claimed invention;
- (3) a finding that one of ordinary skill in the art could have applied the known "improvement" technique in the same way to the "base" device (method, or product) and the results would have been predictable to one of ordinary skill in the art; and
- (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

#### **4. Applying a Known Technique to a Known Device (Method, or Product) Ready for Improvement To Yield Predictable Results**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the prior art contained a “base” device (method, or product) upon which the claimed invention can be seen as an “improvement;”
- (2) a finding that the prior art contained a known technique that is applicable to the base device (method, or product);
- (3) a finding that one of ordinary skill in the art would have recognized that applying the known technique would have yielded predictable results and resulted in an improved system; and
- (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

#### **5. “Obvious To Try” – Choosing From a Finite Number of Identified, Predictable Solutions, With a Reasonable Expectation of Success**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that at the time of the invention, there had been a recognized problem or need in the art, which may include a design need or market pressure to solve a problem;
- (2) a finding that there had been a finite number of identified, predictable potential solutions to the recognized need or problem;
- (3) a finding that one of ordinary skill in the art could have pursued the known potential solutions with a reasonable expectation of success; and
- (4) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

#### **6. 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**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that the scope and content of the prior art, whether in the same field of endeavor as that of the applicant’s invention or a different field of endeavor, included a similar or analogous device (method, or product);
- (2) a finding that there were design incentives or market forces which would have prompted adaptation of the known device (method, or product);
- (3) a finding that the differences between the claimed invention and the prior art were encompassed in known variations or in a principle known in the prior art;
- (4) a finding that one of ordinary skill in the art, in view of the identified design incentives or other market forces, could have implemented the claimed variation of the prior art, and the claimed variation would have been predictable to one of ordinary skill in the art; and
- (5) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

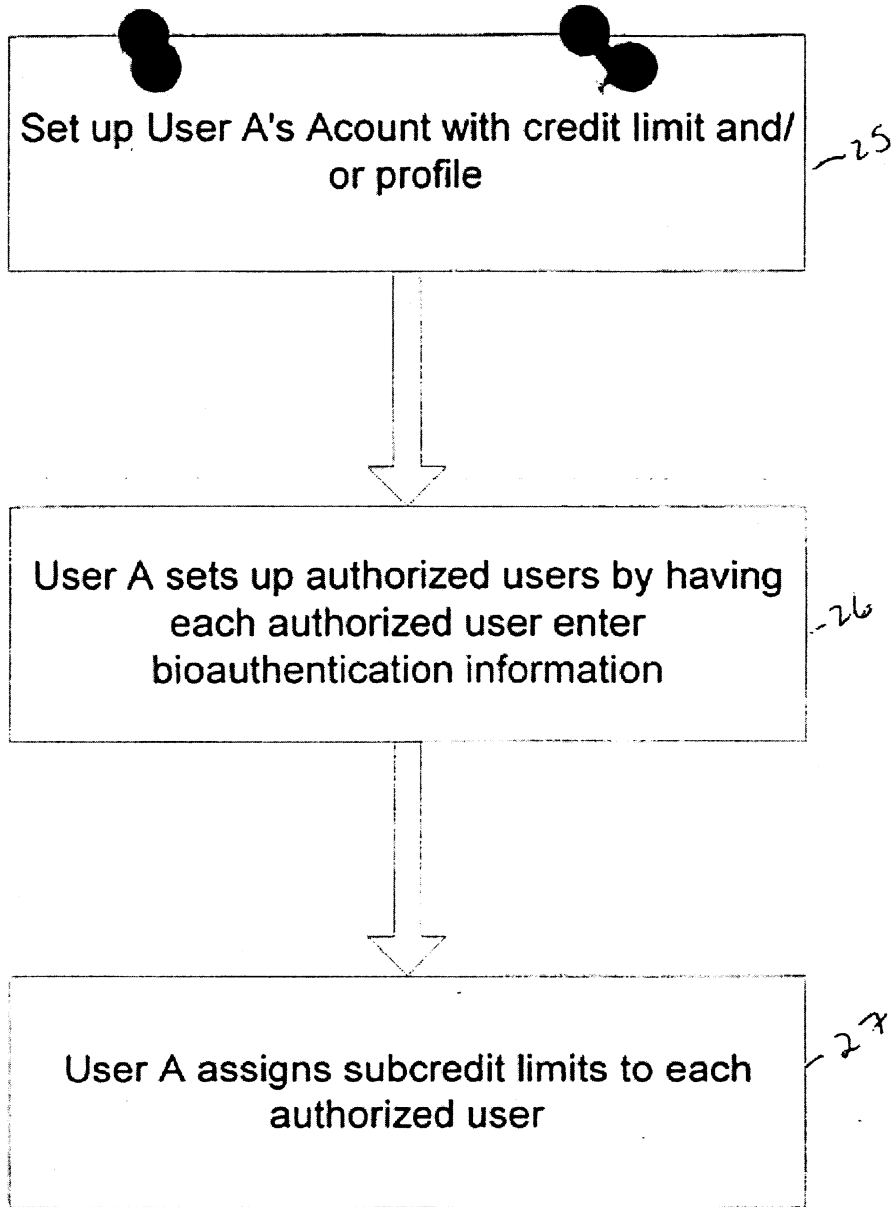
**7. Some Teaching, Suggestion, or Motivation in the Prior Art That Would Have Led One of Ordinary Skill To Modify the Prior Art Reference or To Combine Prior Art Reference Teachings To Arrive at the Claimed Invention**

To reject a claim based on this rationale, Office personnel must resolve the Graham factual inquiries. Then, Office personnel must articulate the following:

- (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;
- (2) a finding that there was reasonable expectation of success; and
- (3) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness.

# Example 1

# The Invention



# The Prior Art

**United States Patent** [19]

[11] **Patent Number:** 5,845,260

**Nakano et al.**

[45] **Date of Patent:** Dec. 1, 1998

[54] **SYSTEM AND METHOD FOR PARENT-CONTROLLED CHARGING FOR ON-LINE SERVICES**

5,331,353	7/1994	Levenson et al.	348/725
5,485,518	1/1996	Hunter et al.	380/20
5,488,633	1/1996	Jamaledin et al.	379/201
5,504,808	4/1996	Hamrick, Jr.	379/144
5,539,450	7/1996	Handelman	348/12
5,629,733	5/1997	Youman et al.	348/7
5,699,104	12/1997	Yoshinobu	348/5.5

[75] **Inventors:** Hiroaki Nakano; Makoto Niijima; Yumle Sonoda, all of Tokyo; Yoshiaki Kumagai, Kanagawa; Junichi Nagahara, Tokyo; Tatsushi Nashida, Kanagawa, all of Japan

*Primary Examiner*—Gail O. Hayes  
*Assistant Examiner*—William N. Hughet  
*Attorney, Agent, or Firm*—Jay H. Maioli

[73] **Assignee:** Sony Corporation, Tokyo, Japan

[57] **ABSTRACT**

[21] **Appl. No.:** 590,944

A charging method for use in an interactive on-line service where a server and terminals of users are mutually connected by a transmission medium, where a predetermined service is provided from the server to the terminals via the transmission medium, and where the fee for such service is collected from each user individually, includes the steps of opening, in the server, an imaginary account for a child of the relevant user with a limited maximum amount, and withdrawing from the imaginary account the fee for the service provided to the user's child. The server can provide a predetermined service to the relevant user's child within a range of the limited maximum amount preset in the imaginary account. When withdrawing the fee from the imaginary account, the server can restrict the service providable to the terminal. Thus, the parent enables his child to receive a desired on-line service, such as on-line shopping or video-on-demand, on the basis of the child's own judgment by setting an upper limit of a service utilizable by the child and still limiting the services providable for the child, hence realizing promoted utilization of the service by children.

[22] **Filed:** Jan. 24, 1996

[30] **Foreign Application Priority Data**

Feb. 6, 1995 [JP] Japan ..... 7-017885

[51] **Int. Cl.<sup>6</sup>** ..... G06F 17/60

[52] **U.S. Cl.** ..... 705/26; 235/379; 235/380; 235/381; 348/1; 348/3; 348/5.5; 395/200.55; 455/2; 707/9; 707/10

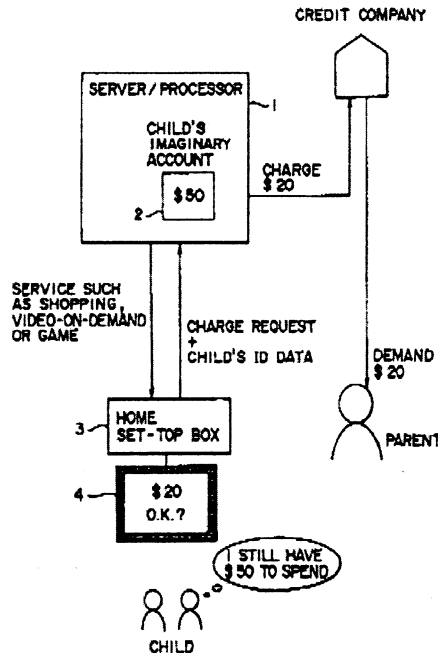
[58] **Field of Search** ..... 235/379, 380, 235/381; 348/1, 3, 5.5; 395/200.55; 455/2; 705/26; 707/9, 10

[56] **References Cited**

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5,046,157	9/1991	Smith et al.	340/309
5,060,079	10/1991	Rufus-Isaacs	358/349
5,168,372	12/1992	Sweetser	358/349

10 Claims, 6 Drawing Sheets



# United States Patent [19]

Harada et al.

[11] Patent Number: **5,721,583**

[45] Date of Patent: **Feb. 24, 1998**

[54] **INTERACTIVE TELEVISION SYSTEM FOR IMPLEMENTING ELECTRONIC POLLING OR PROVIDING USER-REQUESTED SERVICES BASED ON IDENTIFICATION OF USERS OR OF REMOTE CONTROL APPARATUSES WHICH ARE EMPLOYED BY RESPECTIVE USERS TO COMMUNICATE WITH THE SYSTEM**

[75] Inventors: **Takenosuke Harada, Kawasaki; Ryota Tsukidate, Tokyo, both of Japan**

[73] Assignee: **Matsushita Electric Industrial Co., Ltd., Osaka, Japan**

[21] Appl. No.: **756,773**

[22] Filed: **Nov. 26, 1996**

[30] **Foreign Application Priority Data**

Nov. 27, 1995 [JP] Japan ..... 7-307081  
 Nov. 27, 1995 [JP] Japan ..... 7-307082

[51] Int. Cl.<sup>6</sup> ..... **H04N 7/173**

[52] U.S. Cl. .... 348/12; 348/13; 348/7;  
 348/1; 455/5.1

[58] Field of Search ..... 348/1, 2, 6, 7,  
 348/10, 12, 13, 734; 455/2, 3.1, 3.2, 4.1,  
 4.2, 5.1, 6.1, 6.2; H04N 7/173

[56] **References Cited**

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 5,155,591 10/1992 Wachob

5,497,185 3/1996 Dufresne et al. .... 348/2  
 5,638,113 6/1997 Lappington ..... 348/12

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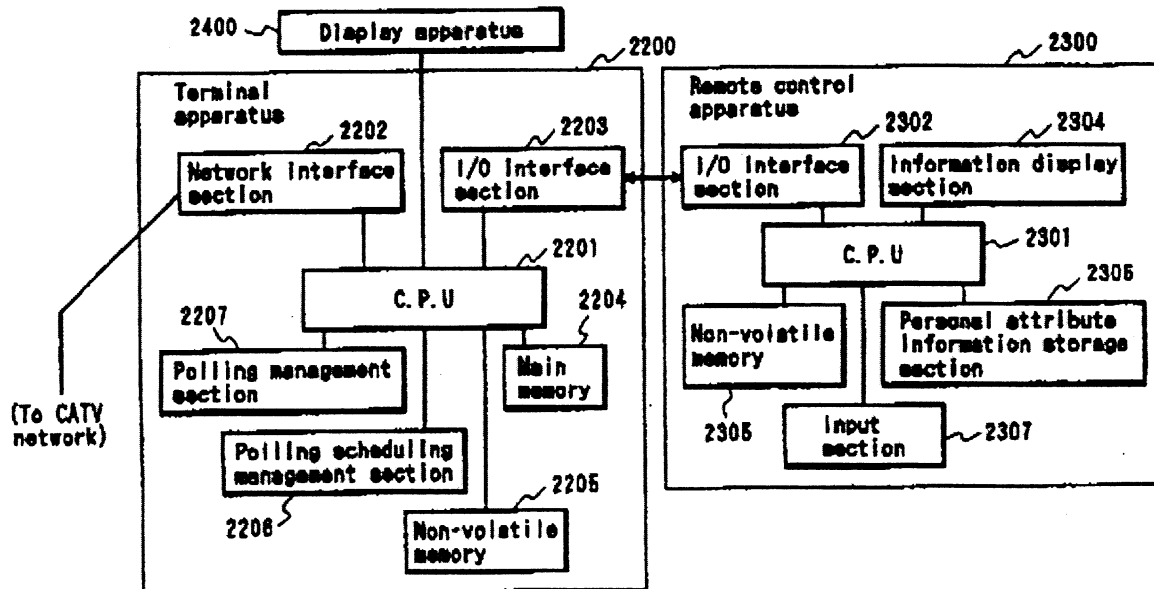
62-258541 11/1987 Japan .  
 5-250080 9/1993 Japan .

*Primary Examiner*—Michael H. Lee  
*Assistant Examiner*—Nathan J. Flynn  
*Attorney, Agent, or Firm*—Lowe, Price, LeBlanc & Becker

[57] **ABSTRACT**

An interactive television system which can provide services such as entertainment programs to users or conduct electronic polls of users, formed of a central computer installation, a plurality of terminal apparatuses each bidirectionally communicating with the central computer installation via a CATV network and each providing video/audio inputs to a display apparatus, with each of the terminal apparatuses being linked to one or more remote control apparatuses whereby users can request services or participate in polling, and in which any message data such as a service request which is issued by a remote control apparatus is automatically accompanied by identifier information read out from a memory of the remote control apparatus, for identifying that remote control apparatus, and may also be accompanied by personal information concerning a registered user of the remote control apparatus. User recognition can be implemented by an arrangement such as a plug-in IC card interface section or fingerprint recognition section, for enabling restriction of each remote control apparatus to use by only a specific registered user, or to enable only a specific registered user to access certain services.

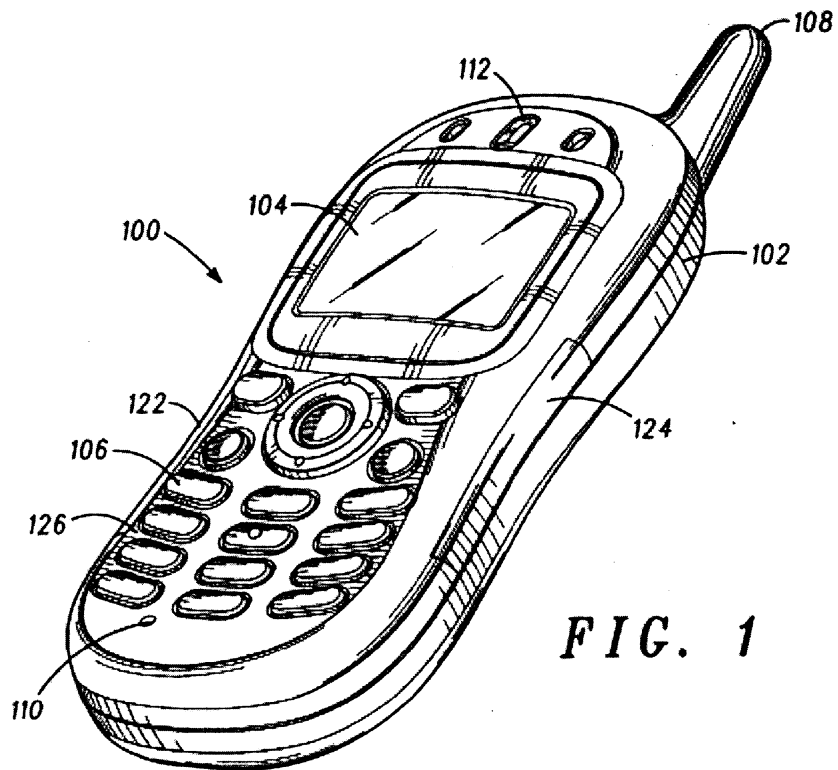
30 Claims, 44 Drawing Sheets





# Example 2

# The Invention



**FIG. 1**

# The Prior Art

(12) **United States Patent**  
Davis

(10) Patent No.: **US 6,292,674 B1**  
(45) Date of Patent: **Sep. 18, 2001**

(54) **ONE-HANDED CONTROL FOR WIRELESS TELEPHONE**

(75) Inventor: **Gerald C. Davis, Hillsborough, NC (US)**

(73) Assignee: **Ericsson, Inc., Research Triangle Park, NC (US)**

(\* ) 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.: **09/135,315**

(22) Filed: **Aug. 5, 1998**

(51) Int. Cl.<sup>7</sup> ..... **H04B 1/38**

(52) U.S. Cl. .... **455/550; 455/90; 455/575**

(58) Field of Search ..... **455/90, 575, 569, 455/550; 379/433, 430, 428; 236/51; 89/1.11**

(56) **References Cited**

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5,538,181	*	7/1996	Simmons et al.	236/51
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WO 9716932	5/1997	(WO)

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*Patent Abstracts of Japan*, vol. 011, No. 171, published Jun. 2, 1987.

\* cited by examiner

*Primary Examiner*—Vivian Chang

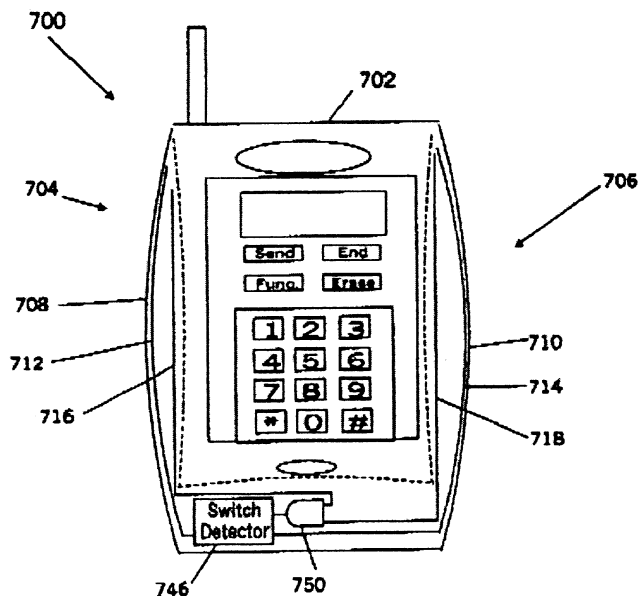
*Assistant Examiner*—Charles N. Appiah

(74) *Attorney, Agent, or Firm*—Wood, Phillips, VanSanten, Clark & Mortimer

(57) **ABSTRACT**

A control apparatus for a hand-held wireless telephone having a housing and operating in a first operational state of a plurality of sequential operational states. The control apparatus changes the operational state of the wireless telephone from the first operational state to a second operational state. The control apparatus itself comprises a detector that produces a signal responsive to a user grasping the housing of the wireless telephone and a controller responsive to receiving the signal produced by the detector and configured to select another operational state following the first operational state in a predetermined sequence of operational states.

20 Claims, 7 Drawing Sheets



(19) **United States**

(12) **Patent Application Publication** (10) Pub. No.: **US 2004/0209594 A1**  
Naboulsi (43) Pub. Date: **Oct. 21, 2004**

(54) **SAFETY CONTROL SYSTEM FOR VEHICLES**

(52) U.S. Cl. .... 455/404.1; 455/403

(76) Inventor: **Mouhamad A. Naboulsi, West Bloomfield, MI (US)**

(57) **ABSTRACT**

Correspondence Address:  
**REISING, ETHINGTON, BARNES,  
KISSELLE, P.C.  
P O BOX 4390  
TROY, MI 48099-4390 (US)**

According to one aspect of one embodiment of the present invention, a safety control system for vehicles, includes, a communication device having at least one of an input accessible from within the vehicle and an output communicated within the vehicle, at least one sensor operable to sense at least one condition related to vehicle operation, and a controller communicated with the sensor and the communication device to selectively suppress at least one of said input and said output in response to a sensed parameter of said at least one condition being outside of a threshold. When an input is suppressed, the driver is prevented from accessing or inputting information into the communication device. When an output is suppressed, communication between the device and the driver of a vehicle is suppressed to, among other things, avoid distracting the driver during certain driving situations or conditions relating to the driver, vehicle and/or environment.

(21) Appl. No.: **10/838,708**

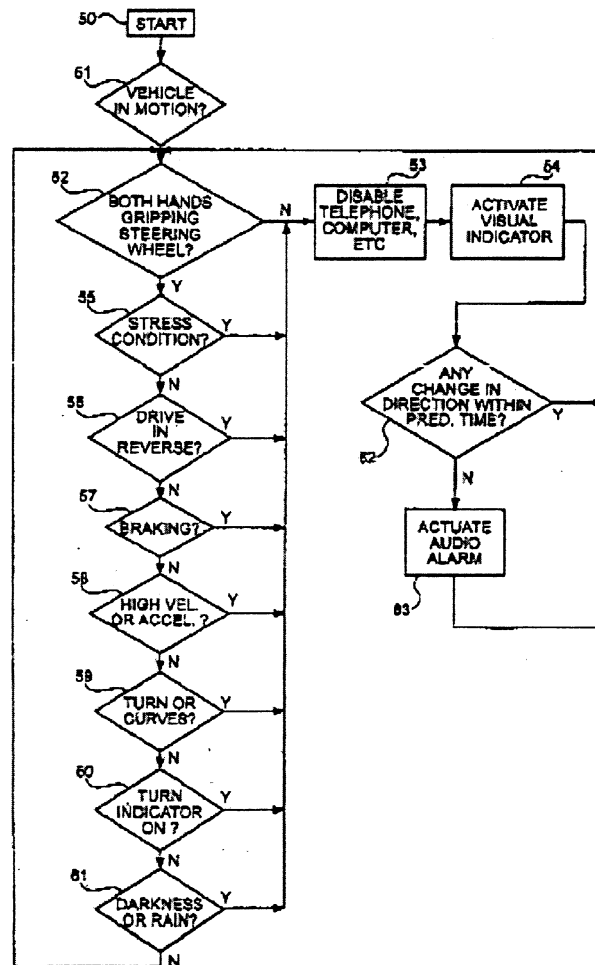
(22) Filed: **May 4, 2004**

**Related U.S. Application Data**

(63) Continuation of application No. 10/287,299, filed on Nov. 4, 2002, now Pat. No. 6,731,925.

**Publication Classification**

(51) Int. Cl.<sup>7</sup> ..... **B60K 26/00**



**United States Patent** [19]  
**Kim**

[11] Patent Number: **4,503,416**  
 [45] Date of Patent: **Mar. 5, 1985**

- [54] GRAPHITE FIBER TACTILE SENSOR
- [75] Inventor: Wontalk Kim, Clifton Park, N.Y.
- [73] Assignee: General Electric Company, Schenectady, N.Y.
- [21] Appl. No.: 576,289
- [22] Filed: Feb. 2, 1984

3,125,739	10/1961	Deibel et al.	338/99
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4,289,940	9/1981	Sado et al.	200/5 A
4,317,012	2/1982	Itoh	200/264

**Related U.S. Application Data**

- [63] Continuation-in-part of Ser. No. 449,346, Dec. 13, 1982, abandoned.
- [51] Int. Cl.<sup>3</sup> ..... H01C 10/10; H01R 11/20
- [52] U.S. Cl. .... 338/99; 338/112; 338/114; 178/18; 200/264
- [58] Field of Search ..... 338/99, 100, 101, 108, 338/112, 114; 178/18; 200/264

**References Cited**

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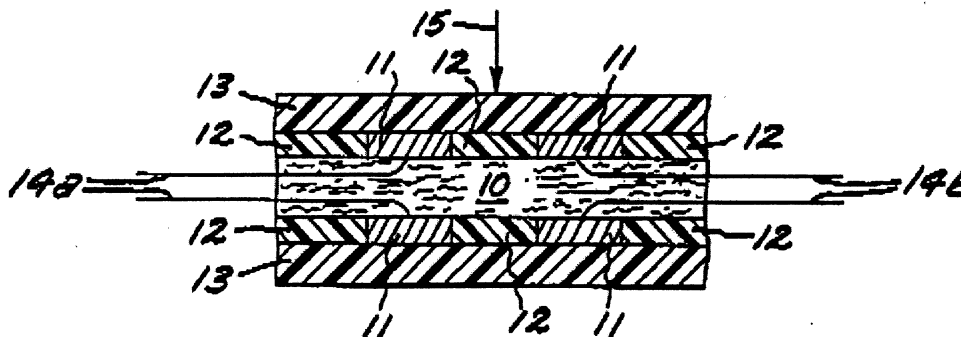
2,305,717 12/1942 Bell ..... 338/114

*Primary Examiner*—Roy N. Envall, Jr.  
*Assistant Examiner*—C. N. Sears  
*Attorney, Agent, or Firm*—Lawrence D. Cutter; James C. Davis, Jr.; Marvin Snyder

[57] **ABSTRACT**

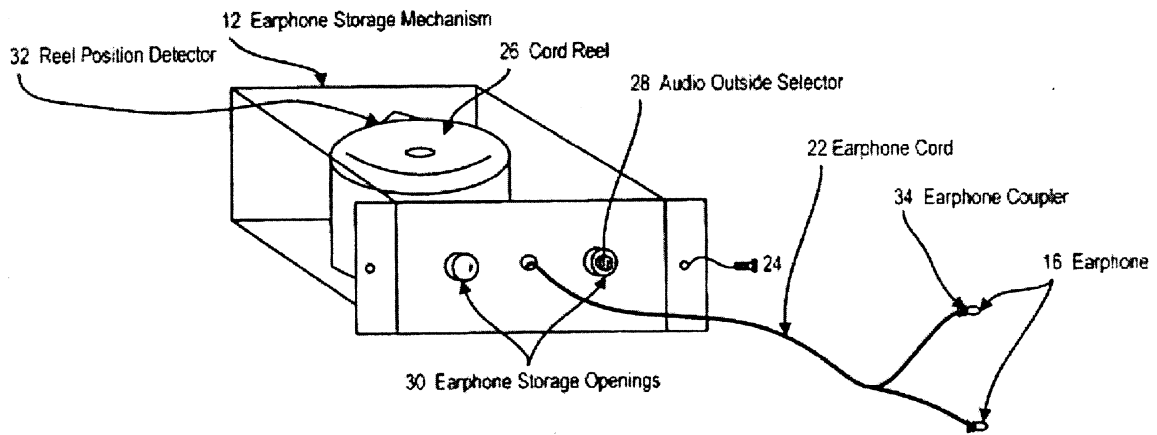
A layer of carbon fiber materials sandwiched between two conductive layers provides a tactile feedback sensor which is particularly useful in manipulator systems for robotics and assembly automation.

**6 Claims, 6 Drawing Figures**



# Example 3

# The Invention



# The Prior Art

**United States Patent** [19]  
**Grasso et al.**

[11] **Patent Number:** **6,011,686**  
 [45] **Date of Patent:** **Jan. 4, 2000**

- [54] **AUDIO DEVICES FOR A PORTABLE COMPUTER**
- [75] **Inventors:** Anthony M. Grasso, Dakota Dunes, S. Dak.; Michael J. Ritter, Sioux City, Iowa
- [73] **Assignee:** Gateway 2000, Inc., North Sioux City, S. Dak.
- [21] **Appl. No.:** 08/963,878
- [22] **Filed:** Nov. 4, 1997
- [51] **Int. Cl.<sup>7</sup>** ..... G06F 1/16
- [52] **U.S. Cl.** ..... 361/686; 174/DIG. 9
- [58] **Field of Search** ..... 361/683, 686; 364/708.1; 174/69, 135, DIG. 9

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5,687,387	11/1997	Endejan et al.	439/638
5,717,430	2/1998	Copland et al.	364/708.1

*Primary Examiner*—Donald Sparks  
*Assistant Examiner*—John D. Reed  
*Attorney, Agent, or Firm*—Schwegman, Lundberg, Woessner & Kluth P.A.; Anthony Claiborne

[57] **ABSTRACT**

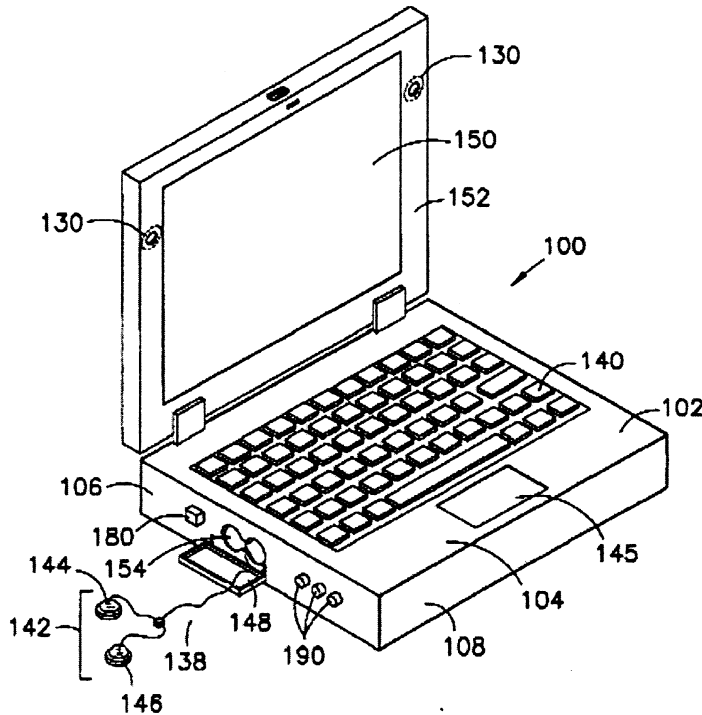
A portable computer is provided with retractable ear phones. The ear phones can include ear buds with an outer cushion. The ear buds are retractably coupled with the portable computer by an audio cable. A retraction mechanism retracts the audio cable and ear buds into the computer. The portable computer has a cut out sized to receive the ear buds therein, which creates a place to store the ear buds during periods of non-use. To use the ear buds, a user removes the buds from the storage position, and pulls the audio cable from the computer. Pulling the audio cable activates the ear buds and disables an audio output device on the portable computer. To return the ear buds to a storage position, a retraction actuator is depressed which retracts the audio cable into the portable computer. Alternatively, the ear buds can be replaced or used in addition to an audio input device. The ear buds and/or audio input device can be provided on other devices, such as a portable keyboard.

[56] **References Cited**

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20 Claims, 4 Drawing Sheets





[54] **MOTOR CYCLE HELMET HEADSET**

[75] **Inventors:** Robert L Doss, Jr., Ringgold;  
 Christopher F Smith, Chickamauga;  
 David G Lashley, Cartersville, all of  
 Ga.

[73] **Assignee:** Ooltewah Manufacturing, Inc.,  
 Ooltewah, Tenn.

[21] **Appl. No.:** 08/927,192

[22] **Filed:** Sep. 11, 1997

[51] **Int. Cl. 7** ..... H04M 1/00; H04R 25/00

[52] **U.S. Cl.** ..... 379/430; 381/376

[58] **Field of Search** ..... 379/430, 449;  
 381/376, 370, 375; 455/575, 351, 568,  
 90

[56] **References Cited**

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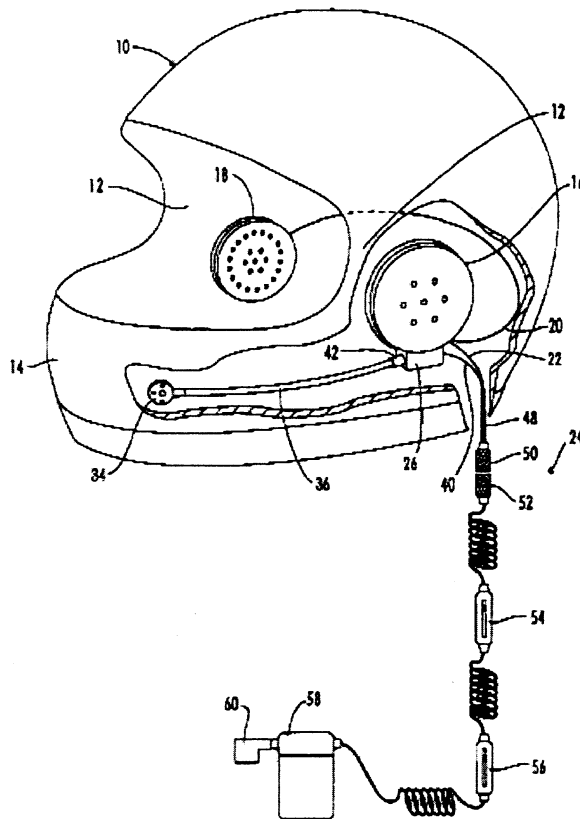
*Primary Examiner*—Jack Chiang

*Attorney, Agent, or Firm*—Alan Ruderman; Miller & Martin LLP

[57] **ABSTRACT**

A motorcycle helmet formed from an impact resistant shell for covering and protecting the head of a user has audio receiver members mounted on the interior of the shell and has a microphone at one end of a boom within the helmet. The microphone is located for use by the user at the front of the helmet while the boom has an adapter on the end opposite the microphone. The microphone has conductors communicating with a connector which communicates with the electrical energy source and control cables. The adapter is receivable within a socket formed by a channel in an extension of one of the receiver housings so that the microphone and boom may be mounted totally within the helmet. The electrical power and control cables are connected to the microphone and the receivers by means of a quick-disconnect type connector and has a separate volume control for the microphone and for the receivers so that two motorcycle riders may adjust the audio system to their liking. The modular arrangement provided by the two connectors permit elements, if broken, to be replaced readily without replacing the entire systems.

10 Claims, 3 Drawing Sheets



# Example 4

# The Prior Art

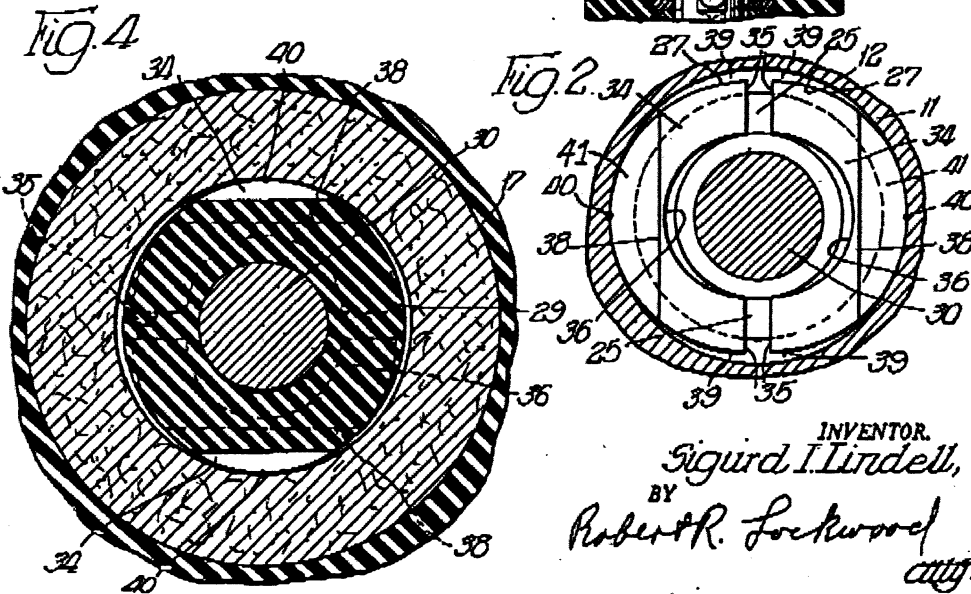
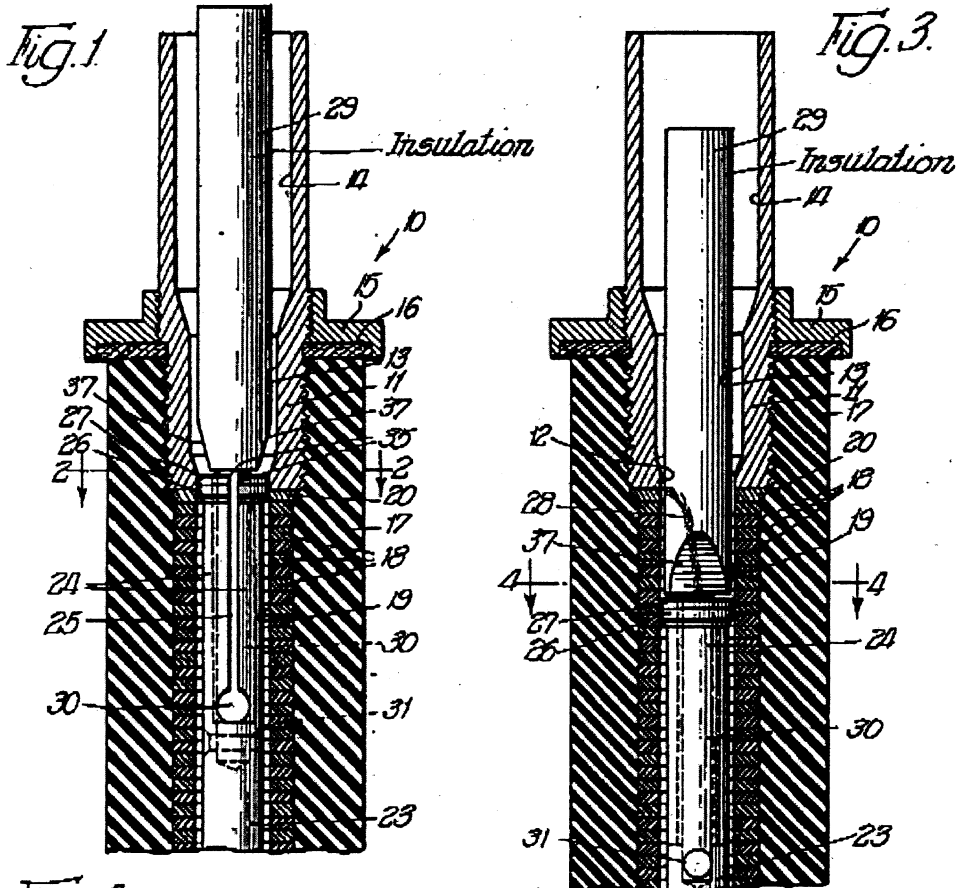
April 8, 1952

S. I. LINDELL  
CIRCUIT INTERRUPTER

2,591,950

Filed Feb. 8, 1949

2 SHEETS—SHEET 1



INVENTOR  
Sigurd I. Lindell,  
BY  
Robert R. Lockwood  
att.

Feb. 9, 1960

T. E. BROWNE, JR., ET AL  
CIRCUIT INTERRUPTERS

2,924,690

Filed Dec. 24, 1954

8 Sheets-Sheet 1

Fig. 1.

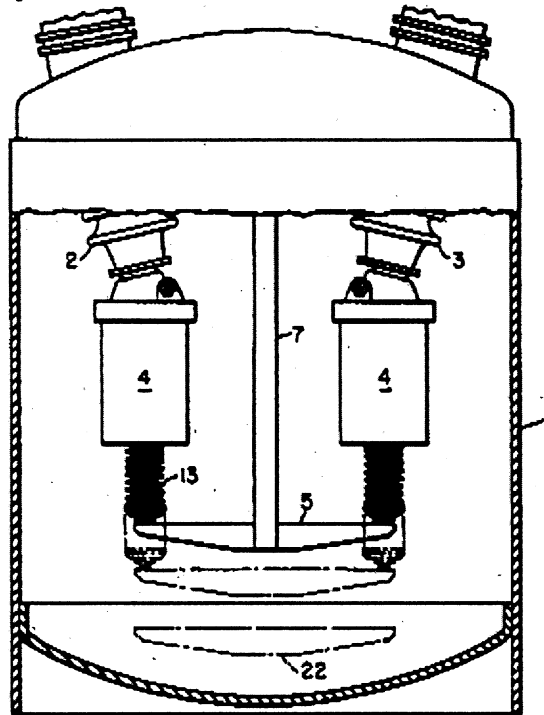
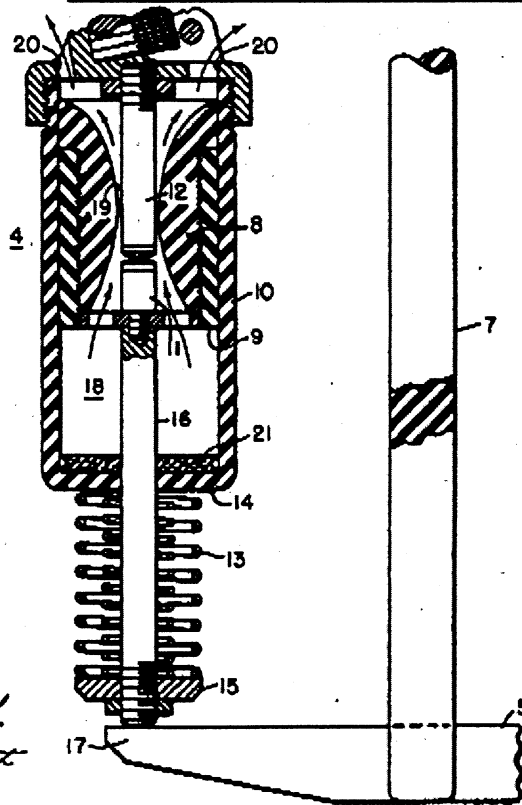


Fig. 2.



WITNESSES

*T. Baird*  
*W. R. Croust*

INVENTORS

Thomas E. Browne, Jr. &  
Albert P. Strom.

BY

*Ralph A. Swingle*  
ATTORNEY

Oct. 9, 1962

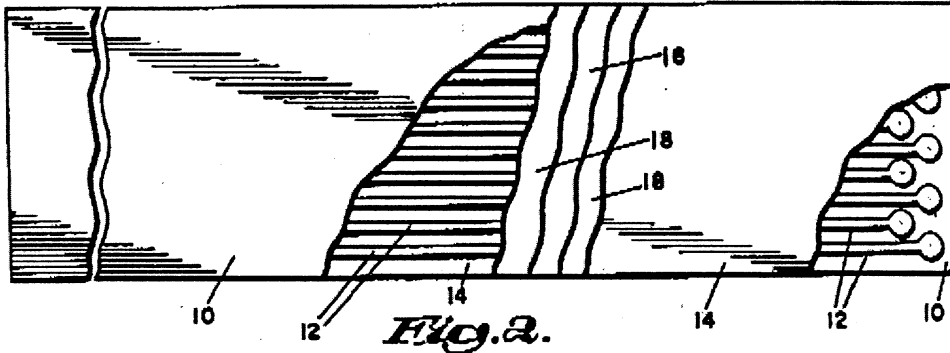
G. F. GORDON

3,057,952

MULTI-PLY FLEXIBLE WIRING UNIT

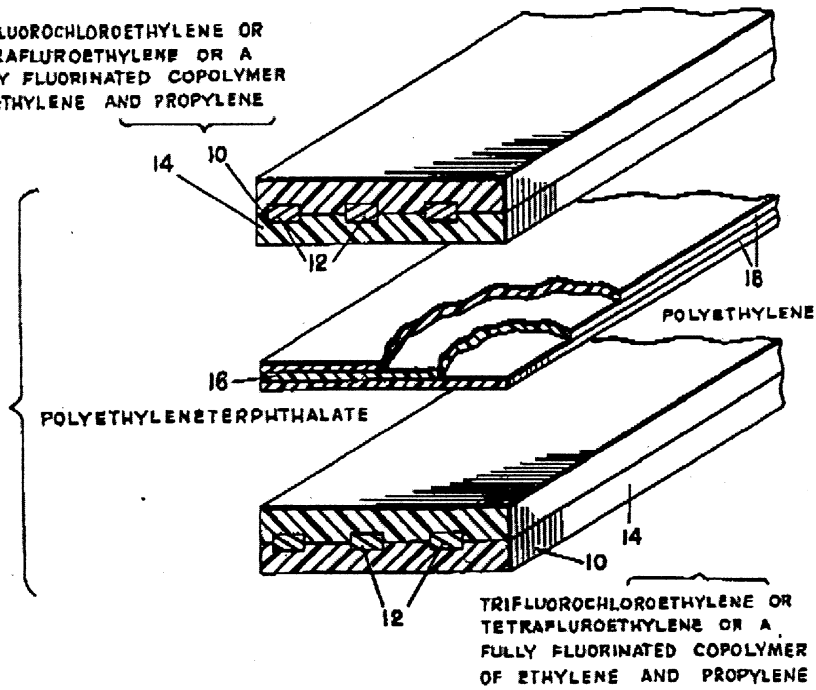
Filed Oct. 31, 1960

*Fig. 1.*



*Fig. 2.*

TRIFLUOROCHLOROETHYLENE OR  
TETRAFLUROETHYLENE OR A  
FULLY FLUORINATED COPOLYMER  
OF ETHYLENE AND PROPYLENE



*Inventor:*

*George F. Gordon*

*by Robert O. Richardson*

*Att'y*

# Example 5

# The Invention

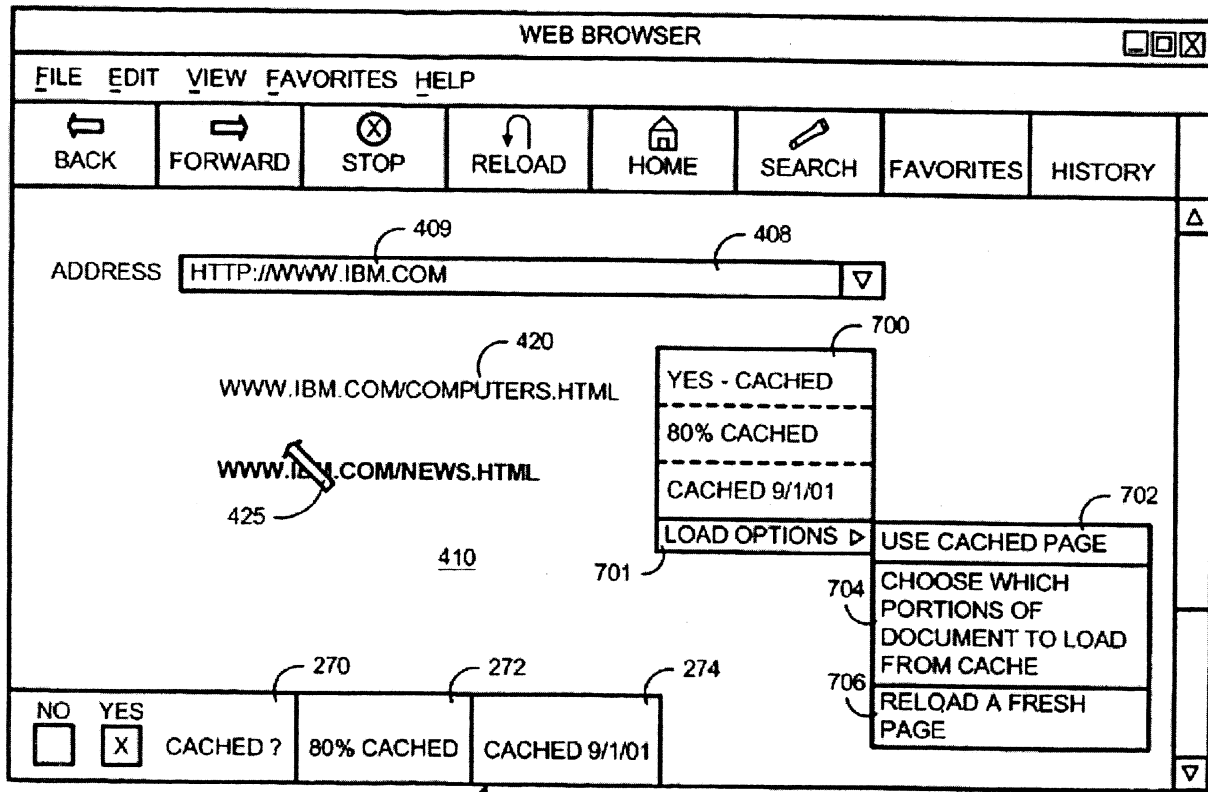


FIG. 7

# The Prior Art

(12) **United States Patent**  
Acharya et al.

(10) Patent No.: **US 6,826,593 B1**  
(45) Date of Patent: **Nov. 30, 2004**

(54) **COMPUTER IMPLEMENTED METHOD AND APPARATUS FOR FULFILLING A REQUEST FOR INFORMATION CONTENT WITH A USER-SELECTABLE VERSION OF A FILE CONTAINING THAT INFORMATION CONTENT**

6,378,053 B1 • 4/2002 Lamaire et al. .... 711/159  
6,389,460 B1 • 5/2002 Stewart et al. .... 709/217

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(75) Inventors: Swarup Acharya, New Providence, NJ (US); Henry F. Korth, Lower Gwynedd, PA (US); Viswanath Poosala, Highland Park, NJ (US)

"Cost-Aware WWW Proxy Caching Algorithms", Pai Cao and Sandy Irani, Technical Report CS-TR-97-1343, University of Wisconsin, Madison, May 1997.

(73) Assignee: Lucent Technologies Inc., Murray Hill, NJ (US)

"Adapting to Network and Client Variability Via On-Demand Dynamic Distillation", Armando Fox, Steven D. Gribble, Eric A. Brewer and Elan Emir, In *Proceedings of the Seventh International Conference on Architectural Support for Programming Languages and Operating Systems*, pp. 160-170, Cambridge, Massachusetts, Oct. 1-5, 1996. ACM SIGARCH, SGIOPS, SIGPLAN, and the IEEE Computer Society.

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

Fast Approximate Answers to Aggregate Queries on a Data Cube, Viswanath Poosala and Venkatesh Ganti, Submitted for Publication, 1997.

(21) Appl. No.: 09/328,627

(22) Filed: Jun. 9, 1999

(List continued on next page.)

## Related U.S. Application Data

(60) Provisional application No. 60/098,737, filed on Sep. 1, 1998.

(51) Int. Cl.<sup>7</sup> ..... G06F 13/00

Primary Examiner—Moustafa M. Mcky

(52) U.S. Cl. .... 709/203; 709/217

(57) **ABSTRACT**

(58) Field of Search ..... 709/200, 201, 709/203, 217, 218, 219, 220, 223, 224, 225, 227

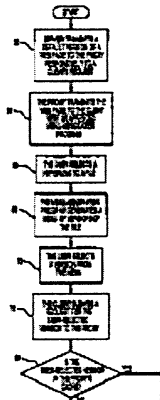
A method of fulfilling a request for information content with a user-selectable version of a file containing that information content. Selection of a hyperlink to information content results in generation of a menu of versions of files containing that information content. The menu displays options for versions which are derivable therefrom by a computer program for converting files from one version to another version. Selection of an option for a materialized version results in transmission of the materialized version. Selection of an option for a version which is not materialized results in derivation of the user-selected version from either a materialized version or any other version from which the user-selected version may be derived. Apparatuses for carrying out the inventive method are also provided.

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16 Claims, 4 Drawing Sheets-





(54) **WEB BROWSER DISPLAY INDICATOR  
SIGNALING THAT CURRENTLY DISPLAYED  
WEB PAGE NEEDS TO BE RELOADED**

(75) Inventor: **Qing Gong, Boca Raton, FL (US)**

(73) Assignee: **International Business Machines  
Corporation, Armonk, NY (US)**

(\*) 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.: **09/109,256**

(22) Filed: **Jun. 30, 1998**

**Related U.S. Application Data**

(63) Continuation of application No. 08/654,865, filed on Jul. 25, 1996, now Pat. No. 5,821,927.

(51) Int. Cl.<sup>7</sup> ..... **G06F 13/14**

(52) U.S. Cl. .... **345/335**

(58) Field of Search ..... **345/335; 707/203,  
707/201, 206, 207, 218, 219**

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Sld: index.html, v1.4, Feb. 26, 1996, Martin Samilton, Other Frequently Asked Questions about WWW Caching, pp 1-7.

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*Primary Examiner*—Mark Zimmerman

*Assistant Examiner*—Cliff Vo

(74) *Attorney, Agent, or Firm*—Richard A. Tomlin; Robert Lieber

(57) **ABSTRACT**

Network browser applications are improved by providing visual status indications informing users that currently displayed pages are one of: old (outdated), partly old or new. Conventional browser applications load old or partly old page information from a cache and new information from a (usually remote) server to which the browser links via a network. A user expecting to view only new information (e.g. information that might be useless if out of date) is alerted by present status indications to request the browser to reload the entire page; which the user can do by operating a reload selector/icon conventionally presented by the browser. Various alternative status indications are shown, along with potential associations of such with a reload selector button (or equivalent icon).

**7 Claims, 1 Drawing Sheet**

