



US010796268B2

(12) **United States Patent**
Joao

(10) **Patent No.:** **US 10,796,268 B2**
(45) **Date of Patent:** ***Oct. 6, 2020**

(54) **APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION**

(71) Applicant: **Raymond Anthony Joao**, Yonkers, NY (US)

(72) Inventor: **Raymond Anthony Joao**, Yonkers, NY (US)

(73) Assignee: **GTJ VENTURES, LLC**, Yonkers, 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.: **16/240,714**

(22) Filed: **Jan. 5, 2019**

(65) **Prior Publication Data**

US 2019/0156268 A1 May 23, 2019

Related U.S. Application Data

(63) Continuation of application No. 15/810,167, filed on Nov. 13, 2017, now Pat. No. 10,181,109, which is a (Continued)

(51) **Int. Cl.**
G06Q 10/08 (2012.01)

(52) **U.S. Cl.**
CPC **G06Q 10/08** (2013.01); **G06Q 10/083** (2013.01)

(58) **Field of Classification Search**
CPC .. G06Q 10/08; G06Q 10/083; G06Q 10/0833; G06Q 10/0835; G06Q 30/40;
(Continued)

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,674,352 A 4/1954 Braun, Sr.
3,482,037 A 12/1969 Brown et al.
(Continued)

FOREIGN PATENT DOCUMENTS

CA 1277400 12/1990
DE 4423328 1/1996
(Continued)

OTHER PUBLICATIONS

Johannesen, "Fleet Management Using Inmarsat-C and GPS—A Norwegian Pilot Project", Vehicle Navigation & Information Systems, 1992, pp. 305-310, IEEE.

(Continued)

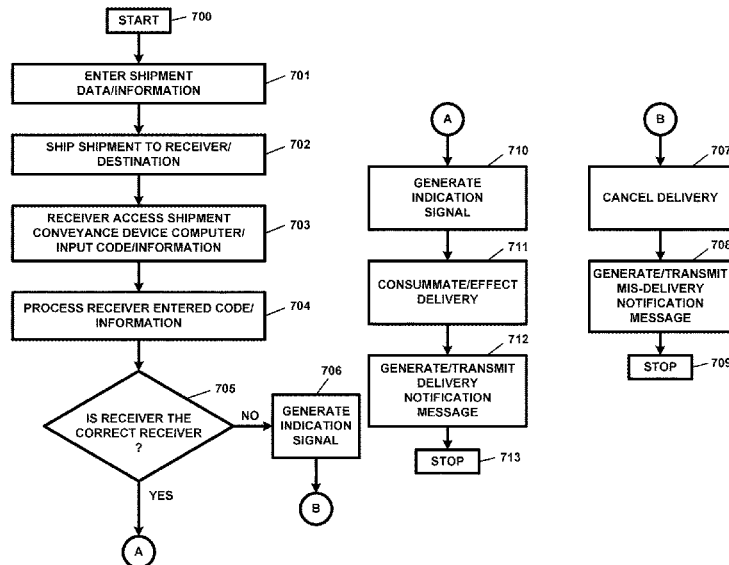
Primary Examiner — Van T Trieu

(74) *Attorney, Agent, or Firm* — Raymond A. Joao, Esq.

(57) **ABSTRACT**

An apparatus, including: a shipment conveyance device which is a shipping container, a pallet, or a piece of luggage; a global positioning device, located in, on, or at, the shipment conveyance device, which determines a position or location of the shipment conveyance device; a processor which generates a message in response to an occurrence of an event or in response to a request for information regarding the shipment conveyance device which request is automatically received by a receiver, and which message contains information regarding a shipment of the shipment conveyance device; and a transmitter, located in, on, or at, the shipment conveyance device, which transmits the message to a communication device associated with an owner of the shipment conveyance device or an individual authorized to receive the message.

20 Claims, 9 Drawing Sheets



Related U.S. Application Data

continuation of application No. 12/317,504, filed on Dec. 24, 2008, now Pat. No. 9,847,029, which is a continuation of application No. 11/405,146, filed on Apr. 17, 2006, now Pat. No. 7,482,920, which is a continuation of application No. 10/055,116, filed on Jan. 22, 2002, now Pat. No. 7,253,731.

(60) Provisional application No. 60/263,877, filed on Jan. 23, 2001.

(58) **Field of Classification Search**
 CPC G08B 1/20; G08B 1/202; G08B 1/205;
 G08B 1/22; H04W 4/02; H04W 4/021
 See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,669,288 A 6/1972 Young
 3,866,164 A 2/1975 Peterson
 3,866,165 A 2/1975 Peterson
 4,003,045 A 1/1977 Stockdale
 4,050,301 A 9/1977 Cushing
 4,064,509 A 12/1977 Stockdale
 4,074,248 A 2/1978 Stockdale
 4,100,543 A 7/1978 Stockdale et al.
 4,137,429 A 1/1979 Stockdale
 4,137,553 A 1/1979 Tokitsu et al.
 4,138,657 A 2/1979 Shave
 4,145,581 A 3/1979 Stockdale
 4,156,235 A 5/1979 Stockdale
 4,156,286 A 5/1979 Connors et al.
 4,191,948 A 3/1980 Stockdale
 4,201,908 A 5/1980 Johnson et al.
 4,206,449 A 6/1980 Galvin et al.
 4,216,375 A 8/1980 Ulch et al.
 4,236,215 A 11/1980 Callahan et al.
 4,258,421 A 3/1981 Juhasz et al.
 4,263,945 A 4/1981 Van Ness
 4,326,221 A 4/1982 Malls et al.
 4,333,093 A 6/1982 Raber et al.
 4,337,651 A 7/1982 Yoshino et al.
 4,347,590 A 8/1982 Heger et al.
 4,373,116 A 2/1983 Shimizu et al.
 4,378,574 A 3/1983 Stephenson
 4,409,670 A 10/1983 Herndon et al.
 4,420,238 A 12/1983 Felix
 4,454,583 A 6/1984 Schneiderhan et al.
 4,470,116 A 9/1984 Ratchford
 4,489,387 A 12/1984 Lamb et al.
 4,498,075 A 2/1985 Gaudio
 4,522,146 A 6/1985 Carlson
 4,524,243 A 6/1985 Shapiro
 4,554,584 A 11/1985 Elam et al.
 4,591,823 A 5/1986 Horvat
 4,596,988 A 6/1986 Wanka
 4,602,127 A 7/1986 Neely et al.
 4,604,711 A 8/1986 Benn et al.
 4,622,541 A 11/1986 Stockdale
 4,623,320 A 11/1986 Kakizaki et al.
 4,638,289 A 1/1987 Zottnik
 4,644,478 A 2/1987 Stephens et al.
 4,644,494 A 2/1987 Muller
 4,645,872 A 2/1987 Pressman et al.
 4,651,143 A 3/1987 Yamanaka
 4,656,585 A 4/1987 Stephenson
 4,660,145 A 4/1987 Hansen
 4,671,111 A 6/1987 Lemelson
 4,673,937 A 6/1987 Davis
 4,677,429 A 6/1987 Glotzbach
 4,682,292 A 7/1987 Bue et al.
 4,729,102 A 3/1988 Miller, Jr. et al.
 4,733,215 A 3/1988 Memmola
 4,768,087 A 8/1988 Taub et al.
 4,768,740 A 9/1988 Corrie

4,772,875 A 9/1988 Maddox et al.
 4,775,028 A 10/1988 De Herring
 4,785,404 A 11/1988 Sims et al.
 4,785,472 A 11/1988 Shapiro
 4,789,904 A 12/1988 Peterson
 4,804,937 A 2/1989 Barbiaux et al.
 4,818,998 A 4/1989 Apsell et al.
 4,831,438 A 5/1989 Bellman, Jr. et al.
 4,831,539 A 5/1989 Hagenbuch
 4,833,450 A 5/1989 Buccola et al.
 4,835,546 A 5/1989 Keller
 4,837,798 A 6/1989 Cohen et al.
 4,838,275 A 6/1989 Lee
 4,841,815 A 6/1989 Takahashi
 4,853,850 A 8/1989 Krass, Jr. et al.
 4,857,912 A 8/1989 Everett, Jr. et al.
 4,860,112 A 8/1989 Nichols et al.
 4,876,597 A 10/1989 Roy et al.
 4,878,175 A 10/1989 Norden-Paul et al.
 4,882,579 A 11/1989 Siwiak
 4,882,743 A 11/1989 Mahmoud
 4,882,746 A 11/1989 Shimada
 4,891,650 A 1/1990 Sheffer
 4,893,240 A 1/1990 Karkouti
 4,896,580 A 1/1990 Rudnicki
 4,897,642 A 1/1990 Dilullo et al.
 4,908,629 A 3/1990 Apsell et al.
 4,931,793 A 6/1990 Fuhrmann et al.
 4,939,522 A 7/1990 Newstead et al.
 4,945,410 A 7/1990 Walling
 4,958,454 A 9/1990 Chan et al.
 4,959,713 A 9/1990 Morotomi et al.
 4,963,995 A 10/1990 Lang
 4,988,992 A 1/1991 Heitschel et al.
 4,989,146 A 1/1991 Imajo
 4,991,123 A 2/1991 Casamassima
 5,002,491 A 3/1991 Abrahamson et al.
 5,003,317 A 3/1991 Gray et al.
 5,005,126 A 4/1991 Haskin
 5,006,840 A 4/1991 Hamada et al.
 5,008,840 A 4/1991 Depierro
 5,014,206 A 5/1991 Scribner et al.
 5,025,253 A 6/1991 Dilullo et al.
 5,027,104 A 6/1991 Reid
 5,031,103 A 7/1991 Kamimura et al.
 5,032,845 A 7/1991 Velasco
 5,055,851 A 10/1991 Sheffer
 5,056,056 A 10/1991 Gustin
 5,056,136 A 10/1991 Smith
 5,057,932 A 10/1991 Lang
 5,058,423 A 10/1991 Ozaki et al.
 5,061,916 A 10/1991 French et al.
 5,065,321 A 11/1991 Bezos et al.
 5,068,656 A 11/1991 Sutherland
 5,070,320 A 12/1991 Ramono
 5,075,527 A 12/1991 Ikuma
 5,081,667 A 1/1992 Drori et al.
 5,083,106 A 1/1992 Kostusiak et al.
 5,084,828 A 1/1992 Kaufman et al.
 5,086,385 A 2/1992 Launey et al.
 5,087,253 A 3/1992 Eschbach et al.
 5,097,253 A 3/1992 Eschbach et al.
 5,103,221 A 4/1992 Memmola
 5,113,427 A 5/1992 Ryoichi et al.
 5,115,678 A 5/1992 Ozaki et al.
 5,128,874 A 7/1992 Bhanu et al.
 5,132,992 A 7/1992 Yurt et al.
 5,133,079 A 7/1992 Ballantyne et al.
 5,138,649 A 8/1992 Krisbergh et al.
 5,144,661 A 9/1992 Shamosh et al.
 5,157,491 A 10/1992 Kassatly
 5,164,839 A 11/1992 Lang
 5,168,170 A 12/1992 Hartig
 5,173,932 A 12/1992 Johansson et al.
 5,189,396 A 2/1993 Stobbe
 5,192,999 A 3/1993 Graczyk et al.
 5,195,126 A 3/1993 Carrier et al.
 5,206,934 A 4/1993 Naef, III
 5,208,756 A 5/1993 Song

(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | |
|-------------|---------|---------------------|-------------|---------|---------------------|
| 5,208,758 A | 5/1993 | Song | 5,541,585 A | 7/1996 | Duhamel et al. |
| 5,210,873 A | 5/1993 | Gay et al. | 5,544,649 A | 8/1996 | David et al. |
| 5,218,367 A | 6/1993 | Sheffer et al. | 5,547,149 A | 8/1996 | Kalberer et al. |
| 5,223,816 A | 6/1993 | Levinson et al. | 5,548,753 A | 8/1996 | Linstead et al. |
| 5,223,844 A | 6/1993 | Mansell et al. | 5,550,738 A | 8/1996 | Bailey et al. |
| 5,224,211 A | 6/1993 | Roe | 5,550,863 A | 8/1996 | Yurt et al. |
| 5,225,842 A | 7/1993 | Brown et al. | 5,553,609 A | 9/1996 | Chen et al. |
| 5,239,468 A | 8/1993 | Sewersky et al. | 5,555,019 A | 9/1996 | Dole |
| 5,239,674 A | 8/1993 | Comroe et al. | 5,557,254 A | 9/1996 | Johnson et al. |
| 5,247,439 A | 9/1993 | Gurmu et al. | 5,559,511 A | 9/1996 | Ito et al. |
| 5,247,564 A | 9/1993 | Zicker | 5,563,453 A | 10/1996 | Nyfelt |
| 5,253,275 A | 10/1993 | Yurt et al. | 5,566,084 A | 10/1996 | Cmar |
| 5,260,874 A | 11/1993 | Berner et al. | 5,568,535 A | 10/1996 | Sheffer et al. |
| 5,262,875 A | 11/1993 | Mincer et al. | 5,572,438 A | 11/1996 | Ehlers et al. |
| 5,263,396 A | 11/1993 | Ladan et al. | 5,577,689 A | 11/1996 | Haro |
| 5,276,728 A | 1/1994 | Pagliarioli et al. | 5,587,715 A | 12/1996 | Lewis |
| 5,281,367 A | 1/1994 | Schleck et al. | 5,588,038 A | 12/1996 | Snyder |
| 5,283,643 A | 2/1994 | Fujimoto | 5,594,425 A | 1/1997 | Ladner et al. |
| 5,287,398 A | 2/1994 | Briault | 5,594,740 A | 1/1997 | Ladue |
| 5,295,551 A | 3/1994 | Sukonick | 5,600,368 A | 2/1997 | Matthews, III |
| 5,299,132 A | 3/1994 | Wortham | 5,602,450 A | 2/1997 | Cowan et al. |
| 5,303,042 A | 4/1994 | Lewis et al. | 5,606,361 A | 2/1997 | Davidsohn et al. |
| 5,310,349 A | 5/1994 | Daniels et al. | 5,619,193 A | 4/1997 | Ziegra et al. |
| 5,313,201 A | 5/1994 | Ryan | 5,625,670 A | 4/1997 | Campana, Jr. et al. |
| 5,315,711 A | 5/1994 | Barone et al. | 5,627,753 A | 5/1997 | Brankin et al. |
| 5,317,323 A | 5/1994 | Kennedy et al. | 5,633,872 A | 5/1997 | Dinkins |
| 5,318,450 A | 6/1994 | Carver | 5,640,442 A | 6/1997 | Fitzgerald et al. |
| 5,321,396 A | 6/1994 | Lamming et al. | 5,660,246 A | 8/1997 | Kaman |
| 5,331,577 A | 7/1994 | Grimes | 5,668,537 A | 9/1997 | Chansky et al. |
| 5,334,974 A | 8/1994 | Simms et al. | 5,680,123 A | 10/1997 | Lee |
| 5,347,306 A | 9/1994 | Nitta | 5,682,133 A | 10/1997 | Johnson et al. |
| 5,381,412 A | 1/1995 | Otani | 5,689,442 A | 11/1997 | Swanson et al. |
| 5,389,935 A | 2/1995 | Drouault et al. | 5,694,335 A | 12/1997 | Hollenberg |
| 5,400,018 A | 3/1995 | Scholl et al. | 5,699,276 A | 12/1997 | Roos |
| 5,406,491 A | 4/1995 | Lima | 5,708,417 A | 1/1998 | Tallman et al. |
| 5,410,343 A | 4/1995 | Coddington et al. | 5,710,970 A | 1/1998 | Walters et al. |
| 5,412,660 A | 5/1995 | Chen et al. | 5,712,789 A | 1/1998 | Radican |
| 5,412,708 A | 5/1995 | Katz | 5,715,905 A | 2/1998 | Kaman |
| 5,418,537 A | 5/1995 | Bird | 5,717,379 A | 2/1998 | Peters |
| 5,428,546 A | 6/1995 | Shah et al. | 5,719,771 A | 2/1998 | Buck et al. |
| 5,430,432 A | 7/1995 | Camhi et al. | 5,721,829 A | 2/1998 | Dunn et al. |
| 5,430,656 A | 7/1995 | Dekel et al. | 5,724,092 A | 3/1998 | Davidsohn et al. |
| 5,432,841 A | 7/1995 | Rimer | 5,726,984 A | 3/1998 | Kubler et al. |
| 5,436,960 A | 7/1995 | Campana, Jr. et al. | 5,727,950 A | 3/1998 | Cook et al. |
| 5,438,517 A | 8/1995 | Sennott et al. | 5,729,217 A | 3/1998 | Ito et al. |
| 5,440,334 A | 8/1995 | Walters et al. | 5,729,452 A | 3/1998 | Smith et al. |
| 5,441,047 A | 8/1995 | David et al. | 5,731,785 A | 3/1998 | Lemelson et al. |
| 5,442,553 A | 8/1995 | Parrillo | 5,732,074 A | 3/1998 | Spaur et al. |
| 5,445,347 A | 8/1995 | Ng | 5,734,413 A | 3/1998 | Lappington et al. |
| 5,446,659 A | 8/1995 | Yamawaki | 5,734,963 A | 3/1998 | Fitzgerald et al. |
| 5,457,597 A | 10/1995 | Rothschild | 5,736,927 A | 4/1998 | Stebbins |
| 5,457,630 A | 10/1995 | Palmer | 5,737,222 A | 4/1998 | Palmer |
| 5,458,494 A | 10/1995 | Krohn et al. | 5,745,161 A | 4/1998 | Ito |
| 5,461,372 A | 10/1995 | Busak et al. | 5,751,245 A | 5/1998 | Janky et al. |
| 5,465,115 A | 11/1995 | Conrad et al. | 5,756,934 A | 5/1998 | Purdom |
| 5,466,115 A | 11/1995 | Conrad et al. | 5,757,640 A | 5/1998 | Monson |
| 5,475,597 A | 12/1995 | Buck | 5,758,300 A | 5/1998 | Abe |
| 5,479,206 A | 12/1995 | Ueno et al. | 5,758,313 A | 5/1998 | Shah et al. |
| 5,497,419 A | 3/1996 | Hill | 5,761,625 A | 6/1998 | Honcik et al. |
| 5,508,733 A | 4/1996 | Kassatly | 5,769,643 A | 6/1998 | Stevens, III |
| 5,508,736 A | 4/1996 | Cooper | 5,772,446 A | 6/1998 | Rosen |
| 5,509,009 A | 4/1996 | Laycock et al. | 5,774,876 A | 6/1998 | Woolley et al. |
| 5,510,828 A | 4/1996 | Lutterbach et al. | 5,786,746 A | 7/1998 | Lombardo et al. |
| 5,510,832 A | 4/1996 | Garcia | 5,788,508 A | 8/1998 | Lee et al. |
| 5,512,902 A | 4/1996 | Guthrie et al. | 5,790,019 A | 8/1998 | Edwin |
| 5,513,244 A | 4/1996 | Joao et al. | 5,791,441 A | 8/1998 | Matos et al. |
| 5,515,043 A | 5/1996 | Berard et al. | 5,793,300 A | 8/1998 | Suman et al. |
| 5,515,285 A | 5/1996 | Garrett, Sr. et al. | 5,796,365 A | 8/1998 | Lewis |
| 5,519,669 A | 5/1996 | Ross et al. | 5,796,612 A | 8/1998 | Palmer |
| 5,523,950 A | 6/1996 | Peterson | 5,798,647 A | 8/1998 | Martin et al. |
| 5,526,269 A | 6/1996 | Ishibashi et al. | 5,801,618 A | 9/1998 | Jenkins |
| 5,528,281 A | 6/1996 | Grady et al. | 5,801,943 A | 9/1998 | Nasburg |
| 5,533,589 A | 7/1996 | Critzer | 5,802,454 A | 9/1998 | Goshay et al. |
| 5,537,141 A | 7/1996 | Harper et al. | 5,805,442 A | 9/1998 | Crater et al. |
| 5,537,143 A | 7/1996 | Steingold et al. | 5,808,566 A | 9/1998 | Behr et al. |
| | | | 5,809,161 A | 9/1998 | Auty et al. |
| | | | 5,809,415 A | 9/1998 | Rossmann |
| | | | 5,812,931 A | 9/1998 | Yuen |
| | | | 5,815,093 A | 9/1998 | Kikinis |

(56)

References Cited

U.S. PATENT DOCUMENTS

| | | | | | | | |
|-----------|---|---------|---------------------|-----------|----|---------|---------------------|
| 5,815,557 | A | 9/1998 | Larson | 6,002,972 | A | 12/1999 | Palmer |
| 5,816,918 | A | 10/1998 | Kelly et al. | 6,003,007 | A | 12/1999 | Dirienzo |
| 5,818,439 | A | 10/1998 | Nagasaka et al. | 6,006,159 | A | 12/1999 | Schmier et al. |
| 5,819,172 | A | 10/1998 | Campana, Jr. et al. | 6,007,095 | A | 12/1999 | Stanley |
| 5,821,718 | A | 10/1998 | Shaffer et al. | 6,007,426 | A | 12/1999 | Kelly et al. |
| 5,821,880 | A | 10/1998 | Morimoto et al. | 6,009,355 | A | 12/1999 | Obradovich et al. |
| 5,823,948 | A | 10/1998 | Ross, Jr. et al. | 6,009,356 | A | 12/1999 | Monroe |
| 5,825,283 | A | 10/1998 | Camhi | 6,009,363 | A | 12/1999 | Beckert et al. |
| 5,826,827 | A | 10/1998 | Coyaso et al. | 6,009,370 | A | 12/1999 | Minowa et al. |
| 5,835,376 | A | 11/1998 | Smith et al. | 6,014,447 | A | 1/2000 | Kohnen et al. |
| 5,835,871 | A | 11/1998 | Smith et al. | 6,014,569 | A | 1/2000 | Bottum |
| 5,838,250 | A | 11/1998 | Maekawa | 6,016,475 | A | 1/2000 | Miller et al. |
| 5,838,683 | A | 11/1998 | Corley et al. | 6,018,710 | A | 1/2000 | Wynblatt et al. |
| 5,841,638 | A | 11/1998 | Purdom et al. | 6,020,825 | A | 2/2000 | Chansky et al. |
| 5,842,199 | A | 11/1998 | Miller et al. | 6,020,826 | A | 2/2000 | Rein |
| 5,842,978 | A | 12/1998 | Levy | 6,023,708 | A | 2/2000 | Mendez et al. |
| 5,844,473 | A | 12/1998 | Kaman | 6,028,537 | A | 2/2000 | Suman et al. |
| 5,845,203 | A | 12/1998 | Ladue | 6,044,990 | A | 4/2000 | Palmeri |
| 5,845,227 | A | 12/1998 | Peterson | 6,046,678 | A | 4/2000 | Wilk |
| 5,845,240 | A | 12/1998 | Fielder | 6,047,264 | A | 4/2000 | Fisher et al. |
| 5,845,283 | A | 12/1998 | Williams et al. | 6,049,711 | A | 4/2000 | Ben-Yehzekel et al. |
| 5,850,250 | A | 12/1998 | Konopka et al. | 6,061,570 | A | 5/2000 | Janow |
| 5,861,799 | A | 1/1999 | Szwed | 6,067,451 | A | 5/2000 | Campana, Jr. et al. |
| 5,862,330 | A | 1/1999 | Anupam et al. | 6,067,571 | A | 5/2000 | Igarashi et al. |
| 5,862,500 | A | 1/1999 | Goodwin | 6,073,106 | A | 6/2000 | Rozen et al. |
| 5,867,208 | A | 2/1999 | McLaren | 6,075,527 | A | 6/2000 | Ichihashi et al. |
| 5,867,821 | A | 2/1999 | Ballantyne et al. | 6,076,066 | A | 6/2000 | Dirienzo et al. |
| 5,875,430 | A | 2/1999 | Koether | 6,078,800 | A | 6/2000 | Kasser |
| 5,877,707 | A | 3/1999 | Kowalick | 6,084,510 | A | 7/2000 | Lemelson et al. |
| 5,880,720 | A | 3/1999 | Iwafune et al. | 6,091,956 | A | 7/2000 | Hollenberg |
| 5,884,032 | A | 3/1999 | Bateman et al. | 6,102,487 | A | 8/2000 | Øvrebo |
| 5,890,079 | A | 3/1999 | Levine | 6,104,815 | A | 8/2000 | Alcorn et al. |
| 5,892,437 | A | 4/1999 | Scheibe et al. | 6,108,493 | A | 8/2000 | Miller et al. |
| 5,895,440 | A | 4/1999 | Proctor et al. | 6,113,493 | A | 9/2000 | Walker et al. |
| 5,896,020 | A | 4/1999 | Pyo | 6,131,060 | A | 10/2000 | Obradovich et al. |
| 5,897,602 | A | 4/1999 | Mizuta | 6,131,096 | A | 10/2000 | Ng et al. |
| 5,897,623 | A | 4/1999 | Fein et al. | 6,131,116 | A | 10/2000 | Riggins et al. |
| 5,898,392 | A | 4/1999 | Bambini et al. | 6,137,485 | A | 10/2000 | Kawai et al. |
| 5,900,905 | A | 5/1999 | Shoff et al. | 6,138,241 | A | 10/2000 | Eckel et al. |
| 5,903,226 | A | 5/1999 | Suman et al. | 6,141,608 | A | 10/2000 | Rother |
| 5,903,816 | A | 5/1999 | Broadwin et al. | 6,141,620 | A | 10/2000 | Zybert et al. |
| 5,911,582 | A | 6/1999 | Redford et al. | 6,144,702 | A | 11/2000 | Yurt et al. |
| 5,911,776 | A | 6/1999 | Guck | 6,148,081 | A | 11/2000 | Szymanski et al. |
| 5,917,405 | A | 6/1999 | Joao | 6,148,291 | A | 11/2000 | Radican |
| 5,917,434 | A | 6/1999 | Murphy | | | | G06Q 10/08 |
| 5,919,244 | A | 7/1999 | Danz et al. | | | | 705/22 |
| 5,922,037 | A | 7/1999 | Potts | 6,151,606 | A | 11/2000 | Mendez |
| 5,929,850 | A | 7/1999 | Broadwin et al. | 6,151,626 | A | 11/2000 | Tims et al. |
| 5,931,878 | A | 8/1999 | Chapin, Jr. | 6,161,005 | A | 12/2000 | Pinzon |
| 5,938,721 | A | 8/1999 | Dussell et al. | 6,167,432 | A | 12/2000 | Jiang |
| 5,948,026 | A | 9/1999 | Beemer, II et al. | 6,181,994 | B1 | 1/2001 | Colson et al. |
| 5,949,345 | A | 9/1999 | Beckert et al. | 6,191,825 | B1 | 2/2001 | Sprogis et al. |
| 5,959,568 | A | 9/1999 | Woolley | 6,204,760 | B1 | 3/2001 | Brunius |
| | | | G01S 5/0289 | 6,208,379 | B1 | 3/2001 | Oya et al. |
| | | | 235/385 | 6,208,386 | B1 | 3/2001 | Wilf et al. |
| 5,959,577 | A | 9/1999 | Fan et al. | 6,208,973 | B1 | 3/2001 | Boyer et al. |
| 5,963,202 | A | 10/1999 | Polish | 6,216,104 | B1 | 4/2001 | Moshfeghi et al. |
| 5,969,714 | A | 10/1999 | Butcher | 6,226,389 | B1 | 5/2001 | Lemelson et al. |
| 5,969,953 | A | 10/1999 | Purdom et al. | 6,233,341 | B1 | 5/2001 | Riggins |
| 5,973,619 | A | 10/1999 | Paredes | 6,233,506 | B1 | 5/2001 | Obradovich et al. |
| 5,974,349 | A | 10/1999 | Levine | 6,236,330 | B1 | 5/2001 | Cohen |
| 5,974,446 | A | 10/1999 | Sonnenreich et al. | 6,236,365 | B1 | 5/2001 | Leblanc et al. |
| 5,976,567 | A | 11/1999 | Wheeler et al. | 6,243,691 | B1 | 6/2001 | Fisher et al. |
| 5,976,648 | A | 11/1999 | Li et al. | 6,244,758 | B1 | 6/2001 | Solymer et al. |
| 5,978,567 | A | 11/1999 | Rebane et al. | 6,249,241 | B1 | 6/2001 | Jordan et al. |
| 5,978,648 | A | 11/1999 | George et al. | 6,252,522 | B1 | 6/2001 | Hampton et al. |
| 5,978,799 | A | 11/1999 | Hirsch | 6,263,322 | B1 | 7/2001 | Kirkevold et al. |
| 5,982,048 | A | 11/1999 | Fendt et al. | 6,269,392 | B1 | 7/2001 | Cotichini et al. |
| 5,983,161 | A | 11/1999 | Lemelson et al. | 6,273,856 | B1 | 8/2001 | Sun et al. |
| 5,988,645 | A | 11/1999 | Downing | 6,275,231 | B1 | 8/2001 | Obradovich |
| 5,995,705 | A | 11/1999 | Lang | 6,278,396 | B1 | 8/2001 | Tran |
| 5,999,808 | A | 12/1999 | Ladue | 6,278,398 | B1 | 8/2001 | Tran |
| 6,001,065 | A | 12/1999 | Devito | 6,281,797 | B1 | 8/2001 | Forster et al. |
| 6,001,066 | A | 12/1999 | Canfield et al. | 6,283,761 | B1 | 9/2001 | Joao |
| 6,002,326 | A | 12/1999 | Turner | 6,292,227 | B1 | 9/2001 | Wilf et al. |
| 6,002,720 | A | 12/1999 | Yurt et al. | 6,292,828 | B1 | 9/2001 | Williams |
| | | | | 6,295,492 | B1 | 9/2001 | Lang et al. |
| | | | | 6,297,853 | B1 | 10/2001 | Sharir et al. |
| | | | | 6,307,948 | B1 | 10/2001 | Kawasaki et al. |
| | | | | 6,317,592 | B1 | 11/2001 | Campana, Jr. et al. |

(56)

References Cited

U.S. PATENT DOCUMENTS

6,318,536 B1 11/2001 Korman et al.
 6,321,221 B1 11/2001 Bieganski
 6,323,566 B1 11/2001 Meier
 6,330,482 B1 12/2001 McCain et al.
 6,330,499 B1 12/2001 Chou et al.
 6,331,825 B1 12/2001 Ladner et al.
 6,332,098 B2 12/2001 Ross et al.
 6,334,127 B1 12/2001 Bieganski et al.
 6,341,265 B1 1/2002 Provost et al.
 6,341,668 B1 1/2002 Fayette et al.
 6,347,333 B2 2/2002 Eisendrath et al.
 6,356,822 B1 3/2002 Diaz et al.
 6,362,730 B2 3/2002 Razavi et al.
 6,366,240 B1 4/2002 Timothy et al.
 6,374,228 B1 4/2002 Litwin
 6,381,583 B1 4/2002 Kenney
 6,385,732 B1 5/2002 Eckel et al.
 6,388,399 B1 5/2002 Eckel et al.
 6,389,337 B1 5/2002 Kolls
 6,400,996 B1 6/2002 Hoffberg et al.
 6,408,278 B1 6/2002 Carney et al.
 6,412,012 B1 6/2002 Bieganski et al.
 6,424,998 B2 7/2002 Hunter
 6,427,063 B1 7/2002 Cook et al.
 6,429,810 B1 8/2002 De Roche
 6,430,531 B1 8/2002 Polish
 6,430,603 B2 8/2002 Hunter
 6,430,605 B2 8/2002 Hunter
 6,431,985 B1 8/2002 Kim
 6,437,692 B1 8/2002 Petite et al.
 6,464,142 B1 10/2002 Denenberg et al.
 6,474,927 B1 11/2002 McAdams et al.
 6,492,904 B2* 12/2002 Richards G01S 5/0036
 340/539.1
 6,493,685 B1 12/2002 Ensel et al.
 6,522,955 B1 2/2003 Colborn
 6,525,780 B1 2/2003 Bruno et al.
 6,542,076 B1 4/2003 Joao
 6,542,077 B2 4/2003 Joao
 6,549,130 B1 4/2003 Joao
 6,567,813 B1 5/2003 Zhu et al.
 6,587,046 B2 7/2003 Joao
 6,589,682 B1 7/2003 Fleckner et al.
 6,601,087 B1 7/2003 Zhu et al.
 6,608,559 B1 8/2003 Lemelson et al.
 6,610,954 B2 8/2003 Takizawa
 6,615,186 B1 9/2003 Kolls
 6,621,827 B1 9/2003 Rezvani et al.
 6,646,655 B1 11/2003 Brandt et al.
 6,654,032 B1 11/2003 Zhu et al.
 6,686,838 B1 2/2004 Rezvani et al.
 6,691,154 B1 2/2004 Zhu et al.
 6,707,484 B1 3/2004 Kawasaki et al.
 6,708,221 B1 3/2004 Mendez et al.
 6,725,460 B1 4/2004 Nishiyama et al.
 6,726,094 B1 4/2004 Rantze et al.
 6,745,027 B2 6/2004 Twitchell, Jr.
 6,763,501 B1 7/2004 Zhu et al.
 6,766,454 B1 7/2004 Riggins
 6,789,119 B1 9/2004 Zhu et al.
 RE38,609 E 10/2004 Chen et al.
 6,804,656 B1 10/2004 Rosenfeld et al.
 6,810,488 B2 10/2004 Teng
 6,816,616 B2 11/2004 Teng
 6,816,817 B1 11/2004 Retlich et al.
 6,850,497 B1 2/2005 Sigler et al.
 6,850,965 B2 2/2005 Allen
 6,859,722 B2 2/2005 Jones
 6,882,269 B2 4/2005 Moreno
 6,889,135 B2 5/2005 Curatolo et al.
 6,901,439 B1 5/2005 Bonasia et al.
 6,901,448 B2 5/2005 Zhu et al.
 6,924,727 B2 8/2005 Nagaoka et al.
 6,925,645 B2 8/2005 Zhu et al.
 6,927,686 B2 8/2005 Nieters et al.

6,930,455 B2 8/2005 Chansky et al.
 6,943,681 B2 9/2005 Rezvani et al.
 7,035,856 B1* 4/2006 Morimoto B65D 5/4212
 707/999.01
 7,164,117 B2 1/2007 Breed et al.
 7,212,829 B1 5/2007 Lau et al.
 7,253,731 B2 8/2007 Joao
 7,272,179 B2 9/2007 Siemens et al.
 7,277,010 B2 10/2007 Joao
 7,313,476 B2 12/2007 Nichols et al.
 7,397,363 B2 7/2008 Joao
 7,482,920 B2 1/2009 Joao
 9,847,029 B2 12/2017 Joao
 9,885,782 B2 2/2018 Joao
 9,961,249 B2 5/2018 Joao et al.
 10,011,247 B2 7/2018 Joao
 10,181,109 B2* 1/2019 Joao G06Q 10/083
 2001/0032099 A1 10/2001 Joao
 2002/0016655 A1 2/2002 Joao
 2002/0017996 A1 2/2002 Niemiec
 2002/0032583 A1 3/2002 Joao
 2002/0046299 A1 4/2002 Lefeber et al.
 2002/0049622 A1 4/2002 Lettich et al.
 2002/0049822 A1 4/2002 Burkhardt et al.
 2002/0072808 A1 6/2002 Li
 2002/0077077 A1 6/2002 Rezvani et al.
 2002/0099567 A1 7/2002 Joao
 2002/0108125 A1 8/2002 Joao
 2002/0111819 A1* 8/2002 Li G06Q 30/04
 705/34
 2002/0116318 A1 8/2002 Thomas et al.
 2002/0121969 A1 9/2002 Joao
 2002/0158774 A1 10/2002 Johnson et al.
 2002/0198774 A1 12/2002 Weirich
 2003/0009361 A1 1/2003 Hancock et al.
 2003/0014295 A1 1/2003 Brookes et al.
 2003/0016130 A1 1/2003 Joao
 2003/0067541 A1 4/2003 Joao
 2003/0071899 A1 4/2003 Joao
 2003/0084125 A1 5/2003 Nagda et al.
 2003/0110215 A1 6/2003 Joao
 2003/0140107 A1 7/2003 Rezvani et al.
 2003/0193404 A1 10/2003 Joao
 2003/0206102 A1 11/2003 Joao
 2003/0224854 A1 12/2003 Joao
 2004/0098515 A1 5/2004 Rezvani et al.
 2004/0160319 A1 8/2004 Joao
 2004/0230601 A1 11/2004 Joao et al.
 2005/0040937 A1 2/2005 Cuddihy et al.
 2005/0248444 A1 11/2005 Joao

FOREIGN PATENT DOCUMENTS

EP 0028933 5/1981
 EP 0229869 7/1987
 EP 0232031 A1 8/1987
 EP 0242099 10/1987
 EP 0395596 10/1990
 EP 0413090 2/1991
 EP 0494030 7/1992
 EP 0505266 9/1992
 EP 0505627 9/1992
 EP 0680859 4/1994
 EP 0604009 11/1995
 EP 0720412 11/1995
 EP 0704712 3/1996
 EP 952588 4/1998
 FR 2674352 9/1992
 FR 2816434 5/2002
 FR 2816434 A1 5/2002
 GB 2051442 1/1981
 GB 2217081 10/1989
 GB 2253534 A 9/1992
 GB 2279478 1/1995
 GB 2263376 7/1999
 JP 63-34612 2/1988
 SE 9200631 9/1993
 WO WO88/04082 6/1988
 WO WO 89/05553 6/1989

(56)

References Cited

FOREIGN PATENT DOCUMENTS

| | | |
|----|-------------|---------|
| WO | WO 89/12835 | 12/1989 |
| WO | WO 92/22883 | 12/1992 |
| WO | WO 96/02106 | 1/1996 |

OTHER PUBLICATIONS

"Daily Giz Wiz 580: Connectix QuickCam," May 30, 2008.

Stauffer, "Smart Enabling System for Home Automation" IEEE Transactions on Consumer Electronics, May 1991, pp. xxix-xxxv, vol. 37, No. 2.

Tynan, "The 50 Greatest Gadgets of the Past 50 Years," PC World, Dec. 24, 2005.

Anbinder, "Connectix is Watching," Jul. 18, 1994.

Wheatley, "Tracker—Stolen Vehicle Recovery System," 1993, The Institution of Electrical Engineers, London, UK.

Scorer, Tony, Trakbak Vehicle Location and Recovery, 1993, IEE, London, UK.

Middleton, et al., "Vehicle Anti-Theft System Uses Radio Frequency Identification," 1993, IEE, London, UK.

Unknown, Data Communications, Jan. 1992.

Morlok, Edward K., et al., "Advanced Vehicle Monitoring and Communications Systems for Bus Transit," Final Report DOT-T-94-03, Sep. 1991.

Young, G.G., "An Equipment Health Monitoring and Fleet Dispatching System for Logging Trucks," 1999.

Jennings, Nicholas R., et al., "Applying Agent Technology," Applied Artificial Intelligence: An International Journal, 1995, pp. 1-22, vol. 9 Issue 4.

Unknown, IEEE—Spectrum, Oct. 1993.

Unknown, IEEE—Spectrum, May 1995.

Goldberg, Ken, et al., "Desktop Teleoperation via the World Wide Web," IEEE International Conference on Robotics and Automation, 1995. IEEE.

Gerland, Hurst E., "Intelligence on Board Modern Approach to Transit Fleet Management," Vehicle Navigation & Information Systems Cont. Proc., 1994, pp. 557-562, IEEE.

(Continued) future developments, Jul. 9, 1996, Tilburg University, Tilburg, The Netherlands.

Diefenbaker, Thomas A., "Development of a Third Generation On-Board Computer System," 1989, pp. 367-369, IEEE.

Sushko, Michael S. K., "DGPS Broadcasts using the Radio Broadcast System (RBDS) for IVHS," IEE Vehicle Navigation & Information Systems Conference, 1993, pp. 312-318, IEEE.

Horgan, et al., "Electronic Watchdogs," IEEE Spectrum, 1985, pp. 43-48, IEEE.

Unknown, "Drivers get more options in 1983," Nov. 1982, p. 35.

Feinstein, et al., "Future Weaponry," IEEE Spectrum, Oct. 1982, pp. 91-99, IEEE.

Arora, R. K., et al., "Global Positioning Technology and Applications," 1994, pp. 784-787, IEEE.

Karimi, Hassan A., et al., "GPS-Based Tracking Systems for Taxi Cab Fleet Operations," IEE Vehicle Navigation & Information Systems Conference, 1993, pp. 679-682, IEEE.

Reynolds, James C., et al., "GPS-Based Vessel Position Monitoring and Display System," IEEE AES Magazine, Jul. 1990, pp. 16-22, IEEE.

"Envirokare Announces Letter of Intent with Electroship(NY) Inc. for purchase of New Patent Pending Wireless Technology to Revolutionize the \$400 Billion Per Year Trucking Industry", Jul. 25, 2000, <http://web.archive.org/web/20001204170600/www.envirokare.com/news72600.html>.

"Technology Executive and Former Managing Partner of Price Waterhouse Joins Envirokare as President and Director", Sep. 5, 2000, <http://web.archive.org/web/20001204171700/www.envirokare.com/news9500.html>.

"Envirokare Tech Inc Announces Additions to Advisory Board", Sep. 7, 2000, <http://web.archive.org/web/20001101094103/www.envirokare.com/news9700.html>.

Savetz, Kevin, et al., MBONE: Multicasting Tomorrow's Internet, Table of Contents, IDG, Apr. 1996, Copyright 1996, 1998, <http://www.savetz.com/mbone/toc.html>.

Savetz, Kevin, et al., MBONE: Multicasting Tomorrow's Internet, Chapter 2: Today's Technology, IDG, Apr. 1996, Copyright 1996, 1998, <http://www.savetz.com/mbone/ch2.html>.

Savetz, Kevin, et al., Mbone: Multicasting Tomorrow's Internet, Chapter 3: The MBONE and Multicasting, IDG, Apr. 1996, Copyright 1996, 1998.

Paulos, Eric, et al., "A World Wide Telerobotic Remote Environment Browser," published by O'Reilly & Associates, Inc. in World Wide Web Journal, Issue One: Conference Paulos Proceedings, Fourth International World Wide Web Conference, (1995) at 677-690.

Paulos, Eric, et al., "A World Wide Telerobotic Remote Environment Browser," Fourth International World Wide Web Conference, (1995) available at Paulos <http://www.w3.org/Conferences/WWW4/Papers/326>.

Katz, Randy, "Adaptation and Mobility in Wireless Information Systems," published by IEEE, Personal Communications (vol. 1, Issue 1), (Aug. 18, 1995).

McGowan, John J., "Networking for Building Automation and Control Systems," 1992, The Fairmont Press, Inc.

Muller, Nathan J., "Computerized Document Imaging Systems: Technology and Applications," 1993, Artech House, Boston.

Hodges, et al., "Multimedia Computing: Case Studies from MIT Project Athena", 1993.

Schmandt, Chris, et al., "Audio and Telephone Server for Multimedia Workstations," Proceedings, Second IEEE Conference on Computer Workstations, 1988, IEEE, Santa Clara, CA.

Yang, C. "INETPhone: Telephone Services and Servers on Internet," Apr. 1995, University of North Texas.

Macedonia, Michael R., et al., "MBone Provides Audio and Video Across the Internet," Computer, Apr. 1994, pp. 30-36.

Allen, Mike, "Beyond the Car Phone," Popular Mechanics, Aug. 1996.

"General Motors Announces OnStar," Feb. 9, 1996.

Yamamoto, Kazuyuki, et al., "A Home Terminal System Using the Home Area Information Network," IEEE Transactions on Consumer Electronics, Nov. 1984, vol. CE-30, No. 4.

Lin, et al., "Migration of Home Information System Toward ISDN," IEEE Transactions on Consumer Electronics, May 1990, pp. 103-109, vol. 36, No. 2.

Inoue, et al., "A Home Automation System," IEEE Transactions on Consumer Electronics, Aug. 1985, pp. 516-527, vol. CE-31, No. 3.

Dorcey, "CU-SeeME Desktop Videoconferencing," Connexions, Mar. 1995.

Ellis, Leslie, "Sun, Starlight Nets Team Up on Business Video Servers," Oct. 10, 1994.

Mattheij, Jacques A. "Welcome to MCS," WaybackMachine, Dec. 29, 1996. <http://web.archive.org/web/19961229205008/http://mattheij.nl/>.

Mattheij, Jacques A. "MCS—Interface," WaybackMachine, Jun. 24, 1998. <http://web.archive.org/web/19980624042050fw/http://www.mattheij.com/interface.html>.

"CU-SeeMe Welcome Page," WaybackMachine, May 2, 1998. <http://web.archive.org/web/19980502173008/http://cu-seeme.cornell.edu/Welcome.html>.

Melikan, Rose, "Bob Metcalfe's article about the trojan Room Coffee Pot," May 15, 2013. qandr.org/quentin/coffeepot/metcalfe.

Ellwood, Stephen J. "rec.video," May 15, 2013. https://groups.google.com/group/rec.video/browse_thread/thread/c68de5ea65664440/b1e46951ddf20a93.

Caglayan, et al., "Agent Source Book—A Complete Guide to Desktop, Internet, and Intranet Agents", 1997.

Mattheij, Jacques. "My Brush With a Patent Troll," Sep. 21, 2012. <http://jacquesmattheij.com/my-brush-with-a-patent-troll>.

Bilton, Nick, "As the Web Turns 25, Its Creator Talks About Its Future," The New York Times (Internet), Mar. 11, 2014.

Stafford-Fraser, Quentin, "The Trojan Room Coffee Pot a (non-technical) biography," May 1995.

Watanabe, Kenzi et al., "Classroom Lessons of Astronomy Using the Internet and It's Multimedia Applications," IEEE, 1996. pp. 389-394.

(56)

References Cited

OTHER PUBLICATIONS

- Bess, Philip K., "Spread Spectrum Applications in Unmanned Aerial Vehicles," Jun. 1994.
- Vieveen, Jan W., et al., "Telematics and Dangerous Goods in the Netherlands," IEE Vehicle Nav. & Info. Sys. Conf., 1993, pp. 653-656, IEEE.
- Leighty, Robert D., "Terrain navigation concepts for autonomous vehicles," SPIE Applications of Artificial Intelligence, 1984, pp. 120-125, vol. 485.
- Perilstein, Fred M., "The Future Impact of the Microprocessor on Total Transport System Control Functions," 1994, pp. 25-30, IEEE.
- Dettmer, Roger, "The Net effect," IEE Review, Mar. 1995, pp. 67-71, IEEE.
- Caskey, David L., "The Potential of Intelligent Vehicle Highway Systems for Enhanced Traveler Security," 1993, pp. 117-119, IEEE.
- Kaplan, Gadi, "Transportation," Technology '86, Jan. 1986, pp. 73-75, IEEE.
- Kaplan, Gadi, "Transportation," Technology '85, Jan. 1985, pp. 81-84, IEEE.
- Kaplan, Gadi, et al., "Transportation," Technology '88, Jan. 1988, pp. 59-64, IEEE.
- Sellers, et al., "An update on the OmniTRACS Two-way Satellite Mobile Communications System and its Application to the Schneider National Truckload Fleet," 1992 Proceedings of the International Congress on Transportation Electronics, Oct. 1992.
- Bruns, G. A., "Strategies for Energy Efficient Plants and Intelligent Buildings," Proc. of the 9th World Energy Engineering Congress, Oct. 21-24, 1986, pp. v-ix, 71-74.
- Carlson, Reinhold A., et al., "Understanding Building Automation Systems," 1991, pp. vii-ix, 51-65, R.S. Means Company, Inc. ISBN 0-87629-211-2.
- Chang, Edmond Chin-Ping, "Internet Based Remote Camera Control System," IEEE, Jun. 22, 1996, 0-7803-3652-6.
- Everett, H.R., et al., "Controlling Multiple Security Robots in a Warehouse Environment," Mar. 1994.
- De Moraes, Luis F.M., et al., "The Internet Multicast from ITS: How it was Done and Implications for the Future," IEEE Communications Magazine, Jan. 1995, pp. 6-8.
- Unkown, "Matracom M05—Un minitel tout terrain", *Entreprendre* N°38 Fevrier 1990, at p. 81 (<http://fr.1001mags.com/parution/entreprendre/numero-38-fevrier-1990/page-80-81-texte-integral>).
- Goldberg, Ken, et al., "Desktop Teleoperation via the World Wide Web," IEEE International Conference on Robotics and Automation, 1995, pp. 654-659, IEEE.
- Kojima, Haruhiko, et al., "Visual Communication System in an Apartment House Using Fiber Optics," 1993, pp. 362-363, IEEE.
- Yang, et al., "Use of Mobitex Wireless Wide Area Networks as a Solution to Land-Based Position and Navigation", Thomas T. Yang and Kai Yan Yip, Jul. 1994.
- Houh, et al., Houh, et al., "Active Pages: Intelligent Nodes on the World Wide Web." First Int'l Conf. on the World-Wide Web. 1994.
- Peinl, et al., "The Design of a Platform for Mobile Data Communication", 1993.
- Tao, et al., "Internet Access via Baseband and Broadband ISDN Gateways", 1994.
- Fuhr, et al., "An Internet observatory: Remote Monitoring of Instrumented Civil Structures Using the Information Superhighway", 1994.
- Zijderhand, et al., "The SOCRATES Projects: Progress Towards a Pan-European Driver Information System", 1993.
- Leiner, et al., "The DARPA Internet Protocol Suite", 1985.
- Clark, "The Design Philosophy of the DARPA Internet Protocols", Aug. 1988.
- Lemos, "ISDN: A Solution in Search of a Problem", Oct. 1995.
- Stallings, "Data and Computer Communications, 3rd Ed.", 1991.
- Lin, Charles, "A New Remote-Access Tribe," PC Magazine, Feb. 6, 1996.
- Vajente-Seguin, "Telemonitoring and Centralized Network Management on Optical Fibres for the RN 90 Olympic Games Highway", Jun. 1991.
- Rigney, Steve, "The Norton pcAnywhere 2.0 for Windows," PC Magazine, Aug. 1, 1995.
- Wygant, Leslie, "Remote access in Digital's signle package," PC Magazine, Apr. 25, 1995.
- Baruch, John E. F., et al., "Remote control and robots: an Internet solution," Computing & Control Engineering Journal, Feb. 1996, pp. 39-45.
- Feijoo, C. et al., "A System for Fleet Management using Differential GPS and VHF Data Transmission Mobile Networks," IEE Vehicle Navigation & Information Sys. Conf., 1993.
- Lin, I-Shen, et al., "A Advanced Telerobotic Control System for a Mobile Robot with Multisensor Feedback," Proc. of Intelligent Autonomous Systems(IAS-4), Mar. 1995, 365-372.
- Gault, Helen, et al., "Automatic Vehicle Location and Control at OC Transpo," IEE Vehicle Navigation & Information Systems Conference, 1993, IEEE, Ottawa.
- Perlstein, Dan, "Automatic Vehicle Location Systems: A Tool for Computer Aided Despatch Systems of the Future," 1989, pp. 186-193, IEEE.
- U.S. Appl. No. 08/681,172, Polish.
- U.S. Appl. No. 60/014,427, Direnzo.
- Garcia, et al., "Monitoring Data in Real Time," Dr. Dobb's Journal, Jul. 1996, p. 56.
- "Beyond Pots: Teletimer, Bell Atlantic & Honeywell Joint Development", EDGE, Apr. 6, 1992, vol. 7, No. 193.
- Gillespie, et al., "Remote Observing at Apache Point," Sep. 1995.
- Topol, "Business and Technology: Ground Control," Apr. 22, 2002.
- Topol, "Pilot Project," Apr. 22, 2002.
- Cu-Seeme Development Team, CU-SeeMe Welcome Page, Last pass: Nov. 11, 1996, <http://web.archive.org/web/19970418025505/cu-seeme.cornell.edu/Welcome.html>.
- Cox, Brad, "Global Schoolhouse Project", Virtual School, Copyright 2004, Modification date: Jan. 22, 2004, <http://www.virtualschool.edu/mon/Academia/GlobalSchoolhouseProject.html>.
- Dorcey, Tim, "CU-SeeMe Desktop Video Conferencing Software", From Connexions, vol. 9, No. 3, Mar. 1995, <http://web.archive.org/web/19970418025546/cu-seeme>.
- Rembold, U., et al., "intelligent autonomous systems," 1995, IOS Press, Netherlands.
- Harris, C. J., et al., "Intelligent autonomous vehicles: Recent progress and central research issues," Computing & Control Engineering Journal, Jul. 1992, pp. 164-171.
- Unknown, Ivan Getting Profile, Apr. 1991.
- Frankel, David, "ISDN Reaches the Market," IEEE Spectrum, Jun. 1995, pp. 20-25, IEEE.
- Aviles, W. A., et al., "Issues in Mobile Robotics: The Unmanned Ground Vehicle Program TeleOperated Vehicle (TOV)," SPIE Mobile Robots V, 1990, pp. 587-597, vol. 1388.
- Duchamp, Dan, "Issues in Wireless Mobile Computing," 1992, pp. 2-10, IEEE.
- Gerland, Horst E., "Its Intelligent Transportation System" IEE Vehicle Nav. & Info. Sys. Conf., 1993, pp. 606-611, IEEE.
- Perry, Tekla S., "Careers/People," 1991, p. 74, IEEE.
- Bruce Schneier, Applied Cryptography, 1996, Second Edition, Wiley, U.S.A.
- Raymond B. Panko, Business Data Communications, 1997, Prentice Hall, U.S.A.
- Simson Garfinkel, et al., Web Security & Commerce, 1997, O'Reilly & Associates, Inc., U.S.A.
- Leslie L. Lesnick, et al., Creating Cool Intelligent Agents for the Net, 1997, IDG Books Worldwide, Inc., U.S.A.
- Nabil R. Adam, et al., Electronic Commerce Technical Business, and Legal Issues, 1999, Prentice Hall PTR, U.S.A.
- Alper Caglayan, et al., Agent Sourcebook a Complete Guide to Desktop, Internet, and Intranet Agents, 1997, Wiley, U.S.A.
- Secrist, Kym, "Intelligent messaging system notifies plant personnel", Control Engineering, Mid-Feb. 1997, vol. 44, Iss. 3, p. 27, 2pgs.
- Fellers, Jack W., et al., "Using the Internet to Provide Support for Distributed Interactions," Proc. of the 28th an. Hawaii Intl. Conf. on Sys. Sciences, 1995, pp. 52-60.

(56)

References Cited

OTHER PUBLICATIONS

- Zhang, Wei-Bin, "Vehicle Health Monitoring for AVCS Malfunction Management," IEE Vehicle Nav. & Info. Sys. Conf., 1993, pp. 501-504, IEEE.
- Gates, Harvey M., et al., "Vehicular Positioning System," IEEE AES Magazine, Mar. 1986, pp. 17-19, IEEE.
- Chang, Yee-Hsiang, "Wide Area Information Accesses and the Information Gateways," 1994, pp. 21-27, IEEE.
- Corr, Frank, et al., "Worldwide Communications and Information Systems," IEEE Communications Magazine, Oct. 1992, pp. 58-63, IEEE.
- Kehoe, Brendan P., "Zen and the Art of the Internet," Jan. 1992, First Edition.
- Garcia, et al., "Monitoring Data in Real Time," Dr. Dobb's Journal, Jul. 1996, pp. 56, 58, 60 and 64.
- Fuhr, P. L., et al., "An Internet observatory: remote monitoring of instrumented civil structures using the information superhighway," Smart Mater. Struct. 4, 1995, pp. 14-19.
- Cordero, et al., "High speed network for delivery of education-on-demand," SPIE, Mar. 25, 1996, pp. 161-172, vol. 2667.
- "W. Ga. Resa Chooses the Network Connection's Cheetah Video on Demand Server for Classroom of the Future," May 15, 1995, PR Newswire.
- "Code-Alarm Debuts First Stolen Vehicle Recovery System to Use Both Cellular, Loran Technologies," Nov. 28, 1989, PR Newswire.
- "Multitude of Car Audio Innovations at CES," Audio Week, Jan. 27, 1992, vol. 4, No. 4.
- "Potential Pac Tel Subsidiary Launches Vehicle Location Service." Dec. 10, 1990, p. 9, BOC Week, vol. 7, No. 48.
- Henry, Gregory W., et al., "Flexible Scheduling of Automatic Telescopes Over the Internet," Robotic Telescopes ASP Conference Series, 1995, vol. 79.
- Bohus, Carisa, et al., "Running Control Engineering Experiments Over the Internet," Aug. 1995.
- Bai, Weiqiang, et al., "Design, Implementation and Analysis of a Multimedia Conference System Using TCP/UDP," IEEE, 1994, pp. 1749-1753.
- Bolot, et al., "A Rate Control Mechanism for Packet Video in the Internet," IEEE, 1994, pp. 1216-1223.
- Fellers, et al., "Using the Internet to Provide Support for Distributed Interactions," Proc. of the 28th Annual Hawaii Int'l Conf. on Sys. Sciences, 1995, pp. 52-60.
- Abdel-Wahab, "Reliable Information Service for Internet Computer Conferencing," IEEE, 1993, pp. 128.142.
- Perschau, National Communication System, Technical Information Bulletin 93-13, Dec. 1993.
- "College Interns Use the Internet to "video commute" to Work." Business Wire, Mar. 21, 1995.
- Grossman, "Communications: Picture the Scene: Wendy Grossman looks at the technology that makes possible videobroadcasting over the Internet." The Guardian 4, Jan. 26, 1995.
- Mcgowan, "Networking for Building Automation Control Systems," 1992.
- Perschau, Stephen, "Transporting Video Teleconferencing Traffic," National Communications System Technical Information Bulletin 93-13, Dec. 1993.
- Riesenbach, Ron, et al., "Ontario Telepresence Project," Mar. 1, 1995, Information Technology Research Centre Telecommunications Research Institute of Ontario.
- Paulos, Eric, et al., "Delivering Real Reality to the World Wide Web via Telerobotics," Proc. of the 1996 IEEE Intl. Conf. on Robotics and Automation, Apr. 1996.
- Kim, J.H., et al., "Remote Communication for Monitoring and Control of Autonomous Underwater Vehicles," To appear in proceedings of Oceans 96, 1995.
- Morlok, E.K., et al., "Vehicle Monitoring and Telecommunication Systems for Enhancement of Trucking Operations," 1989, pp. 356-360, IEEE.
- Michalski, Michalski, "Community Part 1", Release 1.0, Jun. 21, 1993. 4 (<http://cdn.oreilly.com/radar/r1/06-93.pdf>)(teaching that one way to increase usage of a wired computer network is to make it accessible using a handheld terminal with a wireless link.), Jun. 21, 1993.
- Reisenbach, et al., "The Ontario Telepresence Project," Jan. 2, 1992.
- Cogger, Dick, "CU-SeeMe ReadME File" Jan. 16, 1995, pp. 1-14.
- Cameron, et al., "Intelligent Transportation System Mayday Becomes a Reality," 1995, pp. 340-347, IEEE.
- Schilling, "Wireless Communications Going Into the 21st Century," IEEE Transactions on Vehicular Technology, Aug. 1994, pp. 645-652, vol. 43, No. 3, IEEE.
- Casey, Robert F., et al., "Advanced Public Transportation Systems: The State of the Art Update '98," U.S. Department of Transportation DOT-VNTSC-FTA-97-9, Jan. 1998.
- French, Robert L., "Automobile Navigation: Where Is It Going?" IEEE AES Magazine, May 1987, pp. 6 to 12, IEEE.
- Bradshaw, Jacqueline, et al., "Basic Internet Tools," 1994, 2nd edition, Open Learning Agency, Canada. ISBN 1-55162-195-9.
- Perry, Tekla S., "Profile Charles R. Trimble," IEEE Spectrum, Feb. 1992, IEEE.
- "Information Technology Resource Management Guideline Global Positioning System (GPS)," Commonwealth of Virginia COV ITRM Guideline 94-3, Jul. 15, 1994.
- Weld, Robert B., "Communications Flow Considerations in Vehicle Navigation and Information Systems," 1989, pp. 373-375, IEEE.
- Sarch, Ray, "Data communications," Technology 1993, Jan. 1993, pp. 42-45, IEEE.
- Stix, Gary, "Data communications," Technology '90, Jan. 1990, pp. 35-37, IEEE.
- Borsook, Paulina, "Data Communications," Technology 1994 IEEE Spectrum, Jan. 1994, pp. 26-29, IEEE.
- Segev, Arie, et al., "Designing Electronic Catalogs for Business Value: Results of the CommerceNet Pilot," Oct. 1995.
- Gage, "Internet Tools for Sharing Unmanned Vehicle Information", May 1994.
- Carlson, et al., "Understanding Building Automation Systems", 1991.
- Bruns, "Strategies for Energy Efficient Plants and Intelligent Buildings", 1986.
- Uehara, et al., "InternetCAR: Internet-Connected Automobiles", http://noc.aic.net/net98/1f/1f_2.html, Jul. 1997.
- "Official Product and Show Guide." Ashrae Journal, vol. 32, No. 1, Jan. 1990.
- McGowan, "Chapter 6: The System Operator Interface (SOI)," Network for Building Automation and Control Systems, 1992.
- Noore, et al., "Computer-Based Multimedia Video Conferencing System." IEEE, p. 587-592, 1993.
- Ballard, et al., "Automated Remote Monitoring of Structural Behavior via the Internet", SPIE vol. 2719, Apr. 1996.
- Garcia, et al., (Dr. Dobbs Journal), Monitoring Data in Real Time (Remote Access to Laboratories):. Dr. Dobb's Journal, Jul. 1996.
- Cordero, et al., "High Speed Network for Delivery of Education-on-Demand". SPIE vol. 2667, Mar. 25, 1996.
- Zuech, "The EDC-1000 Electronic Imaging System," published by NASA Astrophysics Data System in I.A.P.P.P. Communications, 39 (Mar. 1990) at 1-2.
- Fuhr, et al., "Remote Monitoring of Instrumented Structures Using the Internet Information Superhighway", Paper presented at the Second European Conf. on Smart Structures and Materials, Glasgow 1994, Session 3.
- Sheng, et al., "A Portable Multimedia Terminal", IEEE Communications Magazine, Dec. 1992.
- Jones, et al., "Fully Integrated Truck Information and Control Systems (TIACS)," Society of Automotive Engineers, 1983.
- Kay, "Computer Software", Scientific American, 53-50, vol. 251, No. 3, Sep. 1984.
- Hagenbuch, "Truck/Mobile Equipment Performance Monitoring Management Information Systems (MIS)", SAE Technical Paper Series 861249 (1986).
- Gillan, "Prometheus and Drive: Their Implications for Traffic Managers," Transportation Road Research Lab UK 1989.
- U.S. Appl. No. 08/681,172, filed by Nathan Polish on Jul. 22, 1996, now abandoned.
- U.S. Appl. No. 60/014,427, filed DiRienzo dated Mar. 28, 1995.

(56)

References Cited

OTHER PUBLICATIONS

- Fong, Terrence, et al., "Operator Interfaces and Network-Based Participation for Dante II," SAE Tech Paper 951518, 25th Int'l Conf. on Environmental Sys. Jul. 10, 1995.
- Davis, et al., "Combined Remote Key Control and Immobilization System for Vehicle Security," 1996, IEEE.
- Gormley, Thomas J., et al., "Real Time Diagnostics for Space Shuttle Auxiliary Power System", SAE Tech Paper 951399, Sep. 7, 1995.
- Jacobs, et al., "The Application of a Novel Two-Way Mobile Satellite Communications and Vehicle Tracking System to the Transportation Industry," Feb. 1991, IEEE.
- Taylor, "IMDNs Revolutionize Mobile Data Communications and Vehicle Location", IEE Vehicle Nav. & Info. Sys. Conf. 1993, IEEE.
- Salmasi, "An Overview of the Omnitrac—The First Operational Mobile KU-Band Satellite Communications," May 1, 1988.
- Scapinakis, et al., "Communications and Positioning Systems in the Motor Carrier Industry," Jan. 1, 1992.
- Scapinakis, et al., "Studies of the Adoption and Use of Location and Communication Techs," Jan. 1, 1991.
- Ballard, Robert D., "The Jason Remotely Operated Vehicle System," Feb. 1993.
- Goldberg, Ken, et al., "Beyond the Web: Excavating the Real World Via Mosaic," Second International WWW Conference, pp. 1-12.
- Goldberg, Ken, et al., "Beyond the Web: Manipulating the real world," Computer Networks and ISDN Systems 28, 1995, pp. 209-219, Elsevier Science B.V.
- Kojima, Haruhiko, et al., "Visual Communication System in an Apartment House Using Fiber Optics," Jun. 11, 1993, IEEE.
- Laird, R.T. et al., "MDARS Multiple Robot Host Architecture," Association of Unmanned Vehicle Systems, Oct. 1995.
- Gerland, "Intelligence on Board—Modern Approach to Transit Fleet Management," Vehicle Navigation Information Systems Conference Proceedings, 1994.
- Wygant, Leslie, "Remote access in Digital's signle package", Apr. 25, 1995.
- Cain, David A., et al., "AVLC Technology Today: A Developmental History of Automatic Vehicle Location and Control Systems for the Transit Environment," IEE Vehicle Navigation & Information Systems Conf., 1993, pp. 581-585, IEEE, Ottawa.
- Lombardo, Thomas G., "Collision-proof airspace," IEEE Spectrum, Special Report X, Sep. 1980, pp. 85, 87, 86, IEEE.
- Jurgen, Ronald K., "And if that isn't enough . . .," Automotive Application, Oct. 1983, p. 39.
- Author Unknown -Urgen, IEEE Spectrum, Oct. 1985, pp. 82-83.
- Saldin, Neil P., et al., "Magnavox Automatic Vehicle Location Pilot System for the Toronto Department of Ambulance Services," 1989, pp. 194-201, IEEE.
- "Best bits: applications of microprocessors," Mar. 1982, p. 24.
- Hurst, G.C., "Quiktrak: A Unique New AVL System," 1989, pp. A-60 to A-62 and p. 126, IEEE.
- Halayko, David W., "The Canadian MSAT Field Trials Program," 1992, pp. 376-378, IEEE.
- Sattler, Michael, "Internet TV With CU-Seeme," 1995, First Edition, Pages Cover, Inside Cover and Publication Information Only. Sams.net ISDN 1-57521-006-1.
- Press, Larry, "Net.Speech: Desktop Audio Comes to the Net," Personal Computing, Communications of the ACM, Oct. 1995, vol. 38, No. 10.
- "Color PC Video Conferencing is Here!" New Web Site—Video on Internet—comp.misc I Google Groups, May 10, 1995.
- Roy, Deb Kumar, "NewsComm: A Hand-Held Device for Interactive Access to Structured Audio," Jun. 1995.
- Hassen, Paul F., "Pope TV to Transmit Live Video/Audio Cybercast Across the Internet From CICI Homepage," rec.video.cable-tv I Google Groups, Oct. 5, 1995.
- Unknown, "Niagara FallsCam Home Page," WaybackMachine, May 10, 1996.
- Pitsilos, A.G., "rec.video.production," Making a WebCam—rec.video.production I Google Groups, Nov. 10, 1995.
- Sattler, Michael, "Internet TV with CU-SeeMe" Electronic Copy, Chapters 1 through 10 and A though D. 1993.
- Riesenschach, Ron, "The Ontario Telepresence Project," Conference Companion CHI '94, Apr. 24, 1994. Association for Computing Machinery, Boston, MA.
- Unkown, IEEE—How to Frustrate Car Thieves, Oct. 1985.
- Tsuzawa, M., et al., "Advanced Mobile Traffic Information and Communication System—AMTICS," 1989, pp. 475-483, IEEE.
- Langrock, Donald G., et al., "Advanced Telerobotic Controller," 1994, pp. 11-157 to 11-162, IEEE.
- Adam, A. "Aerospace and Military," Technology '85, Jan. 1985, pp. 85-88, IEEE.
- Dooling, Dave, "Aerospace and military," IEEE Spectrum Technology 1993, Jan. 1993, pp. 72-75, IEEE.
- Schooley, Larry C., et al., "An Advanced Architecture for Telesystems Applications," 1994 IEEE National Telesystems Conference, 1994, pp. 119-122, IEEE.
- Harris, James C., "An Infogeometric Approach to Telerobotics," 1994 IEEE National Telesystems Conference, 1994, pp. 153-156, IEEE.
- Illman, J., et al., "An Integrated System for Navigation and Positioning of an ROV for Scientific Exploration," 1993, pp. 11-449 to 11-503, IEEE.
- Unkown, IEEE Spectrum—Finding Your Way Electronically, Nov. 1982.
- Lang, Larry, "LAN Interconnection: Wide-Area Data Networks," Aug. 1991, p. 38.
- Khan, Mobeen, et al., "MOBITEX and Mobile Data Standards," IEEE Communications Magazine, Mar. 1995, pp. 96-101, IEEE.
- Dooling, Dave, "Navigating close to shore," IEEE Spectrum, Dec. 1994, pp. 24-25, pp. 28-30, IEEE.
- Kim Kiho, et al., "Remote Manipulator and its teleoperated Guide Vehicle for Hazardous Waste Sampling Operations," 1994, pp. 2620-2625, IEEE.
- Rosenberg, Paul, "Position-Location/Navigation Systems Overview for Military Land Vehicles," Technical Report No. 12496, Jun. 28, 1979.
- Adam, John A., "Satellites and artificial intelligence promise improved safety and efficiency," IEEE Spectrum, Feb. 1991, pp. 27-29, IEEE.
- Jurgen, Ronald K., "Smart cars and highways go global," IEEE Spectrum, May 1991, pp. 26, 28-30, IEEE.
- Moezzi, et al., "An Emerging Medium: Interactive Three-Dimensional Digital Video" Proceedings of Multimedia '96, 1996, pp. 358-361.
- Soman, et al., "An Experimental Study of Video Conferencing over the Internet" 1994, pp. 720-724, IEEE.
- Turletii, et al., "Videoconferencing on the Internet," IEEE/ACM Transactions on Networking, Jun. 1996, pp. 340-351, vol. 4, No. 3.
- Vetter, "Computer-controlled Devices Reach the Internet," Computer, Dec. 1995.
- Vetter, "Videoconferencing on the Internet," Computer, Jan. 1995.
- Graves, et al., "A Modular Software System for Distributed Telerobotics," Aug. 25, 1994.
- Gleck, "Fast Forward; Really Remote Control," The New York Times, Dec. 3, 1995.
- Fuhr, et al., "An Internet Observatory: Remote Monitoring of Instrumented Civil Structures Using the Information Superhighway," Smart Mater. Struct. 4, 1995, pp. 14-19.
- Rothblatt, Martin, "The First GPS Satellite Radio Optimized for Automatic Vehicle Location," 1992, pp. 524-527, IEEE.
- Getting, Ivan A., "The Global Positioning System," IEEE Spectrum, Dec. 1993, pp. 36-47, IEEE.
- Ballard, Robert D., "The JASON Remotely Operated Vehicle System," Woods Hole Oceanog. Inst. Tech. Rept. WHOI-93-34, Feb. 1993.
- Kaltenberger, Burke R., "Unmanned Air Vehicle/Remotely Piloted Vehicle Analysis for Lethal UAV/RPV," Sep. 1993.
- Unkown, "Aerospace and Military," Jan. 1993.
- Council on Information MGMT, VA IT GPS Guideline, Jul. 1994.
- Stafford-Fraser, Quentin, "The Trojan Room Coffee Pot—a (non-technical) biography", First published May 1995, <http://www.cl.cam.ac.uk/coffee/qsf/coffee.html>.

(56)

References Cited

OTHER PUBLICATIONS

Stafford-Fraser, Quentin, "The Life and Times of the First Web Cam—When convenience was the mother of invention", *Communications of the ACM*, Jul. 2001/vol. 44, No. 7, pp. 25-26, <http://www.cl.cam.ac.uk/coffee/qsf/cacm200107.html>.

Sattler, Michael 'Mickey', *Internet TV with CU-SeeMe: Chapter 8—History, Culture, and Usage*, copyrighted 1993-2003, <http://www.geektimes.com/michael/CU-SeeMe/internetTVwithCUSeeMe/chapter08/culture.html>.

* cited by examiner

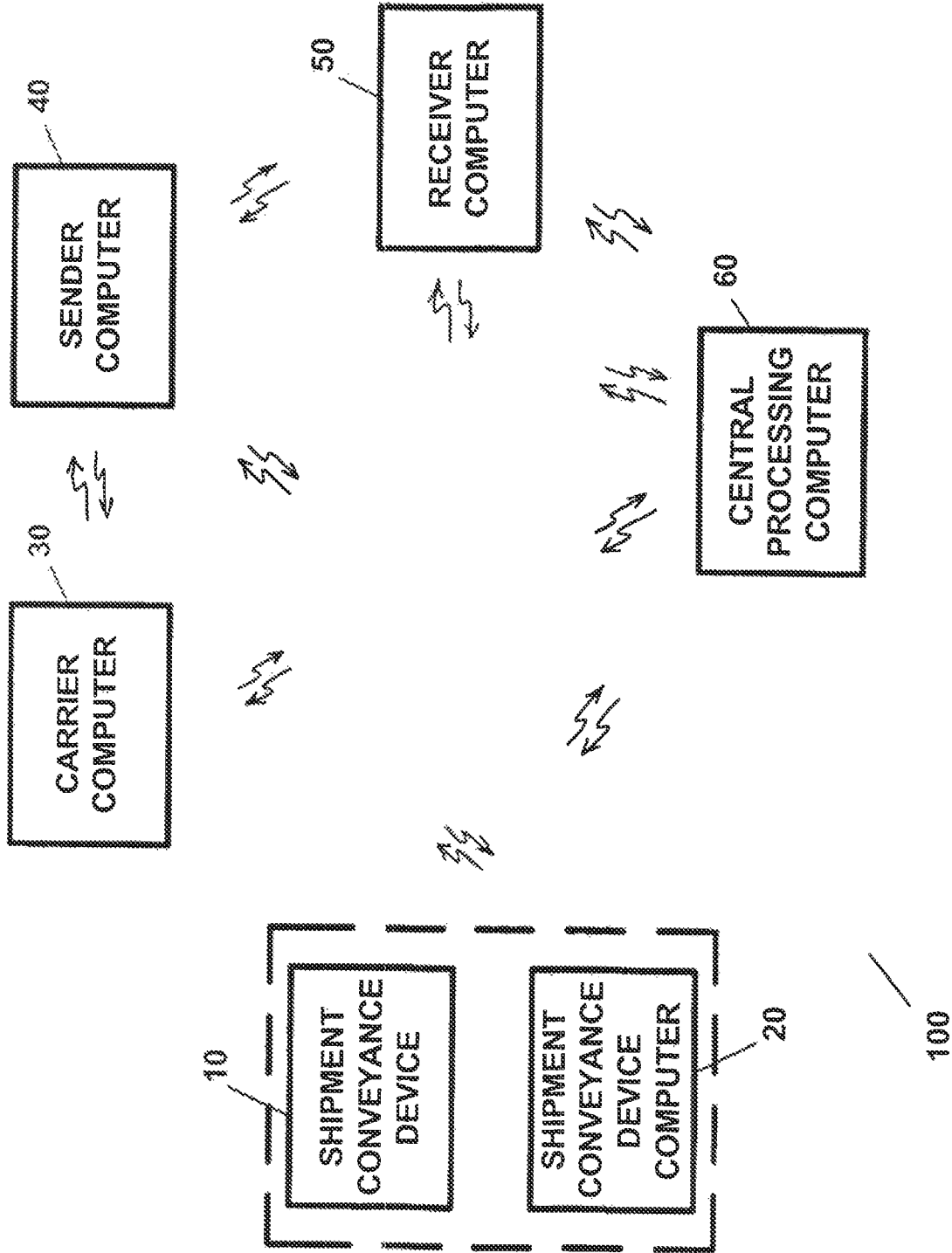


FIG. 1

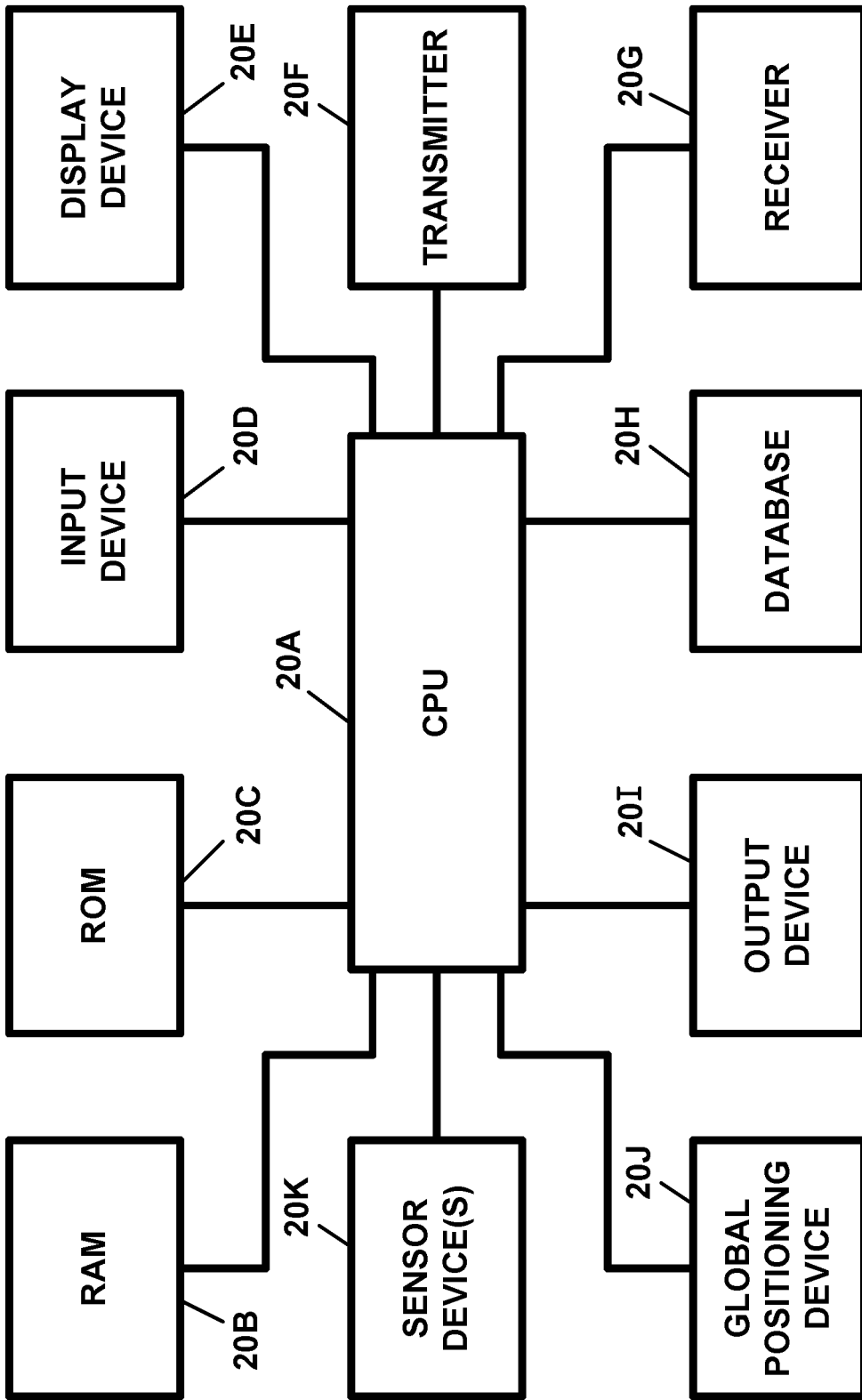


FIG. 2

20

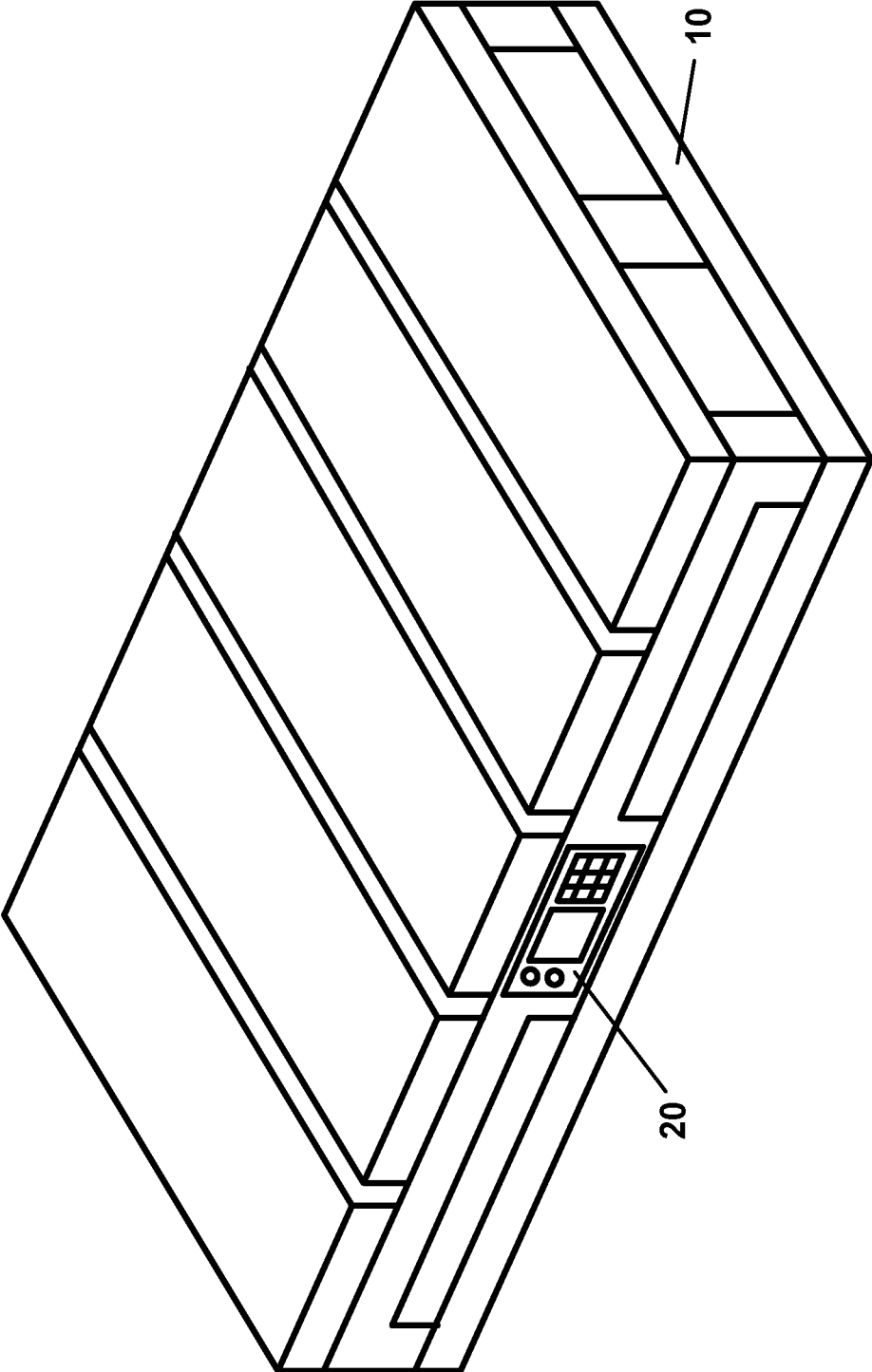


FIG. 3

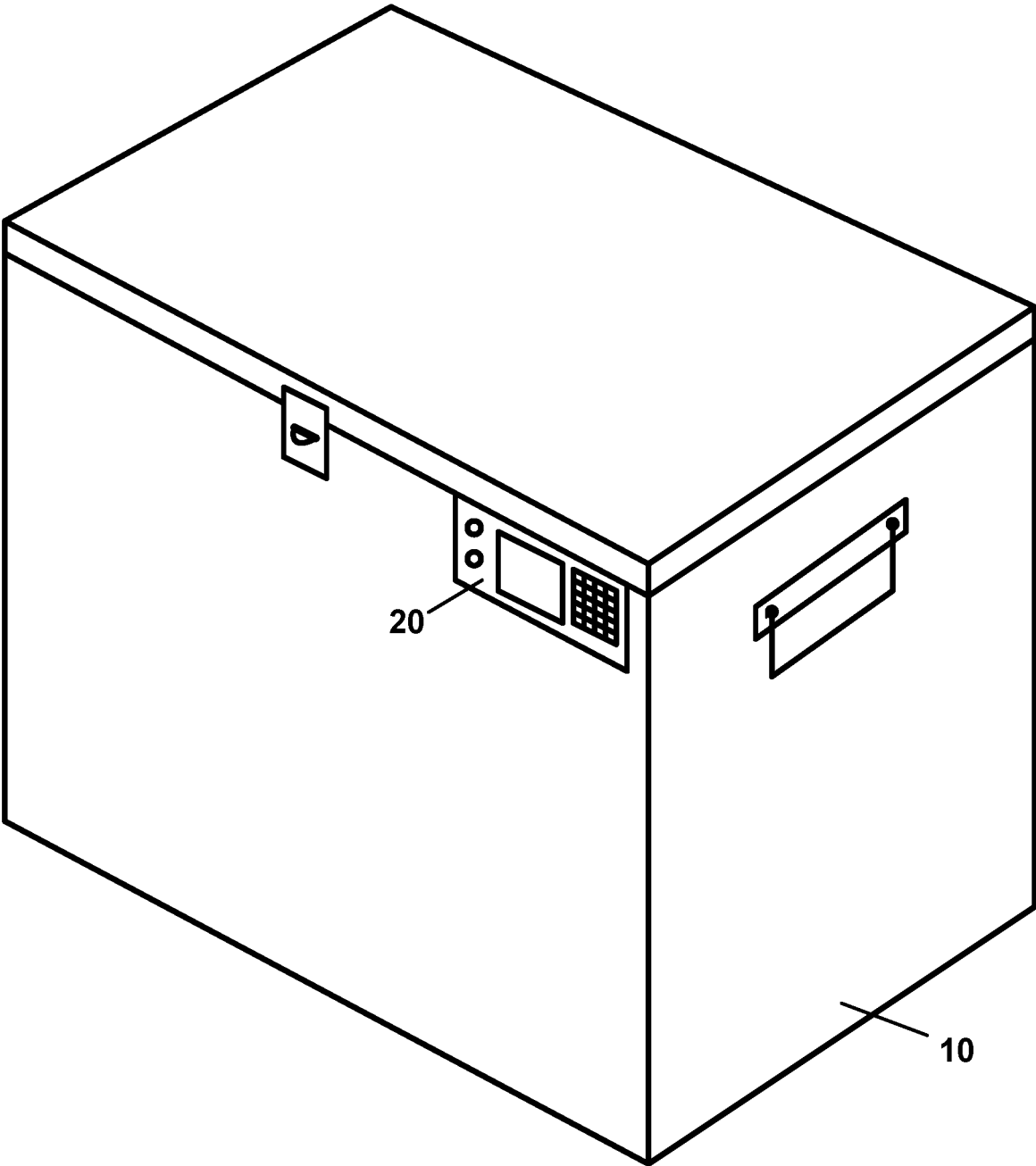


FIG. 4

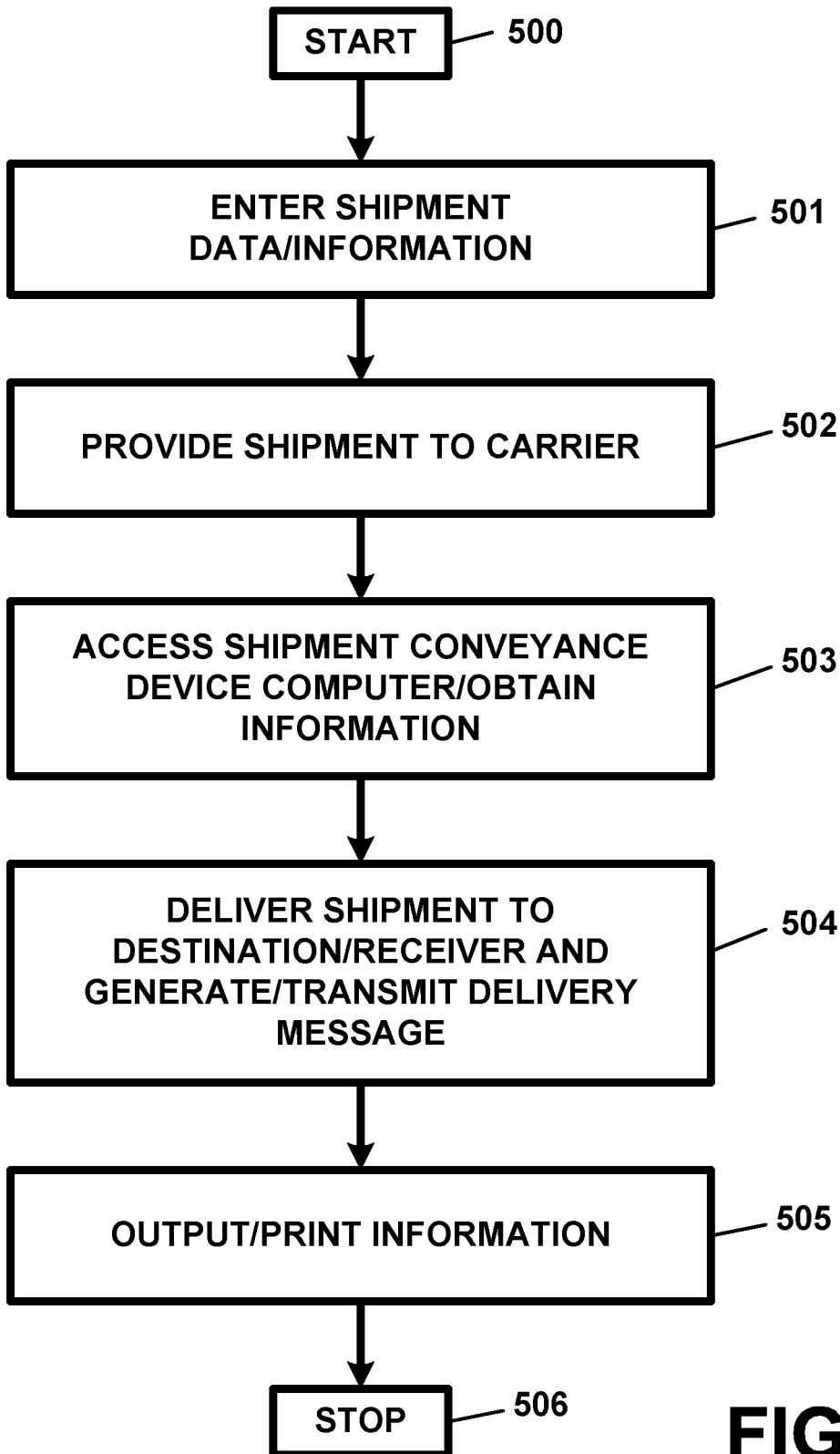


FIG. 5

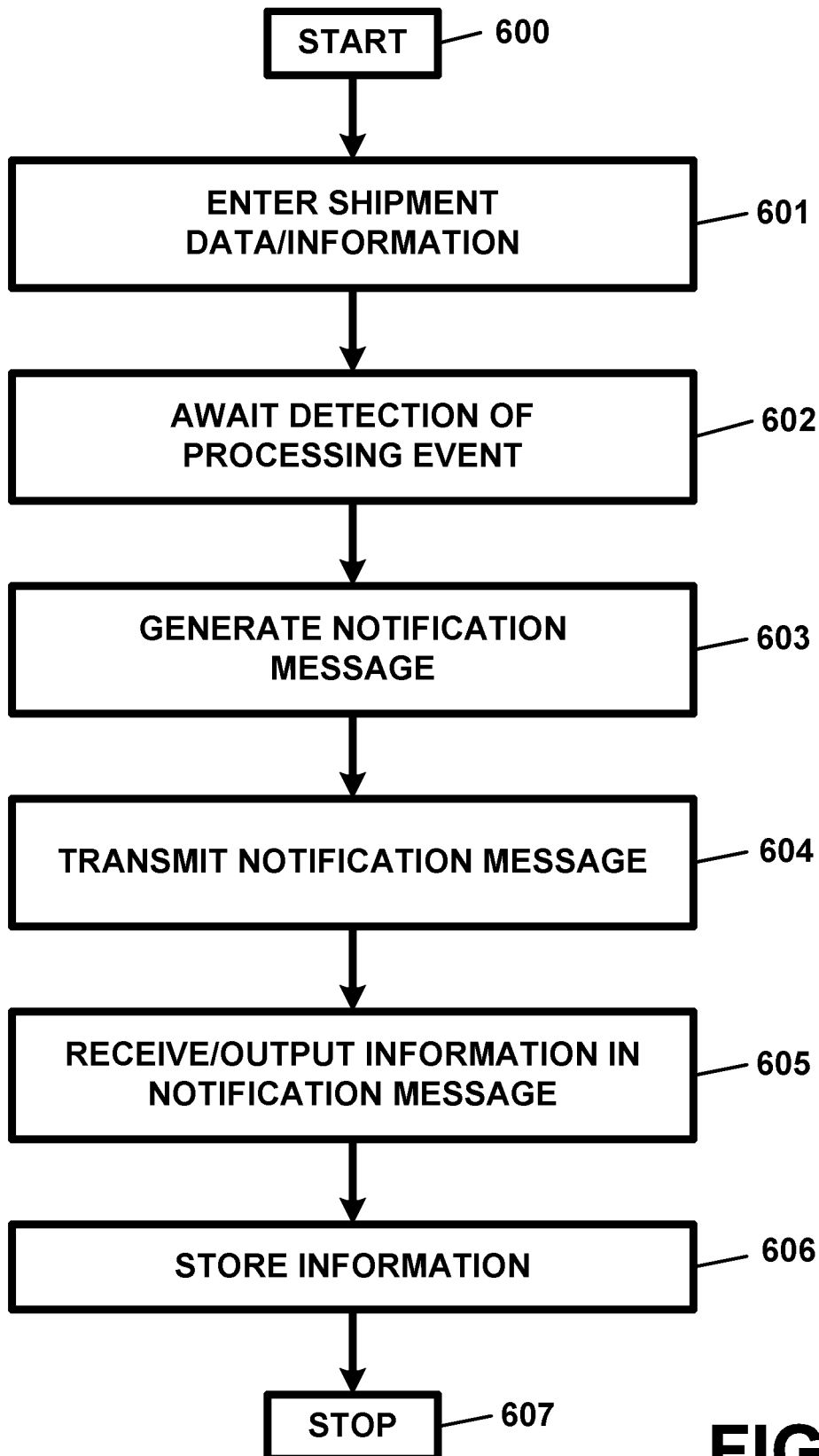


FIG. 6

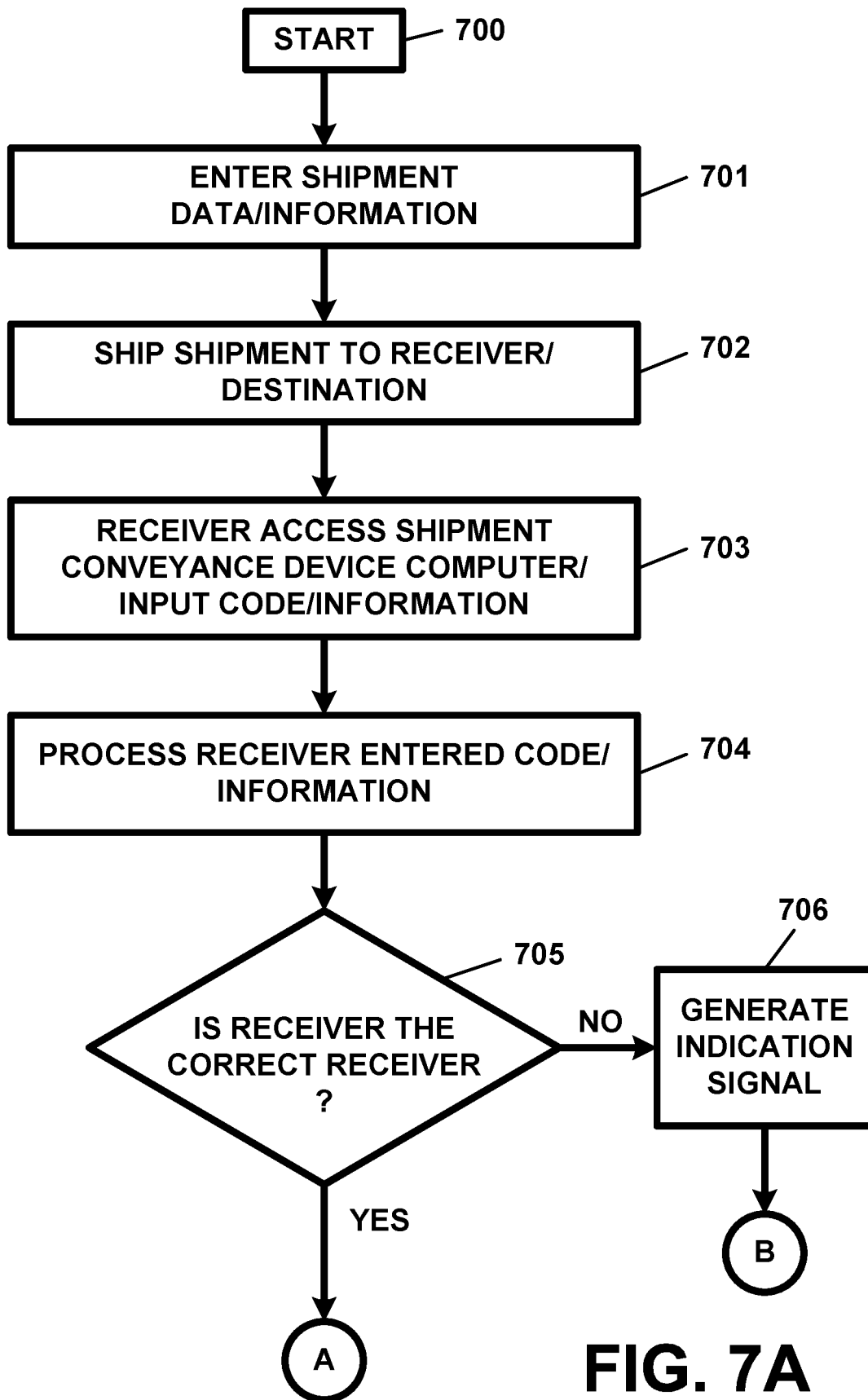


FIG. 7A

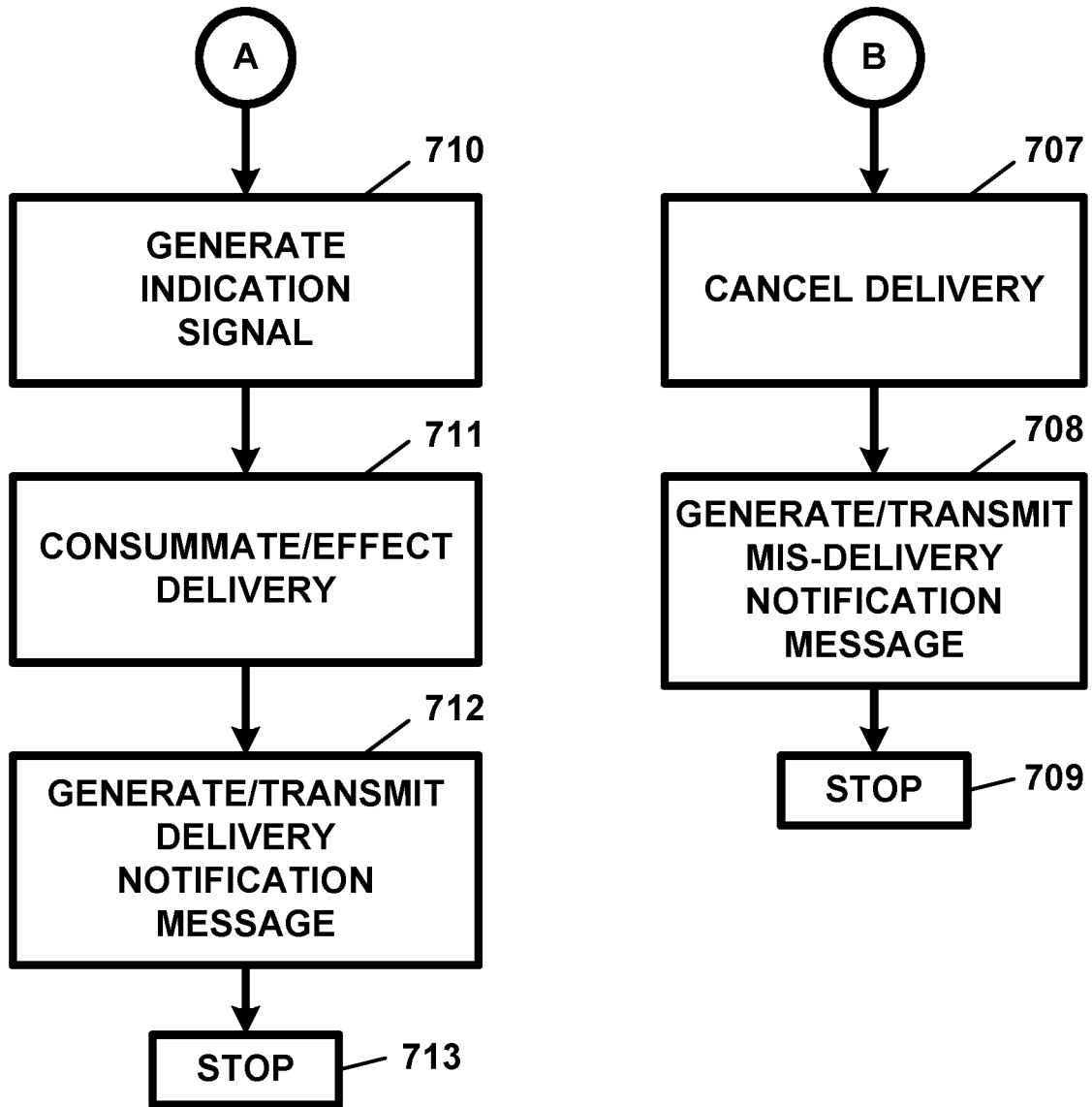


FIG. 7B

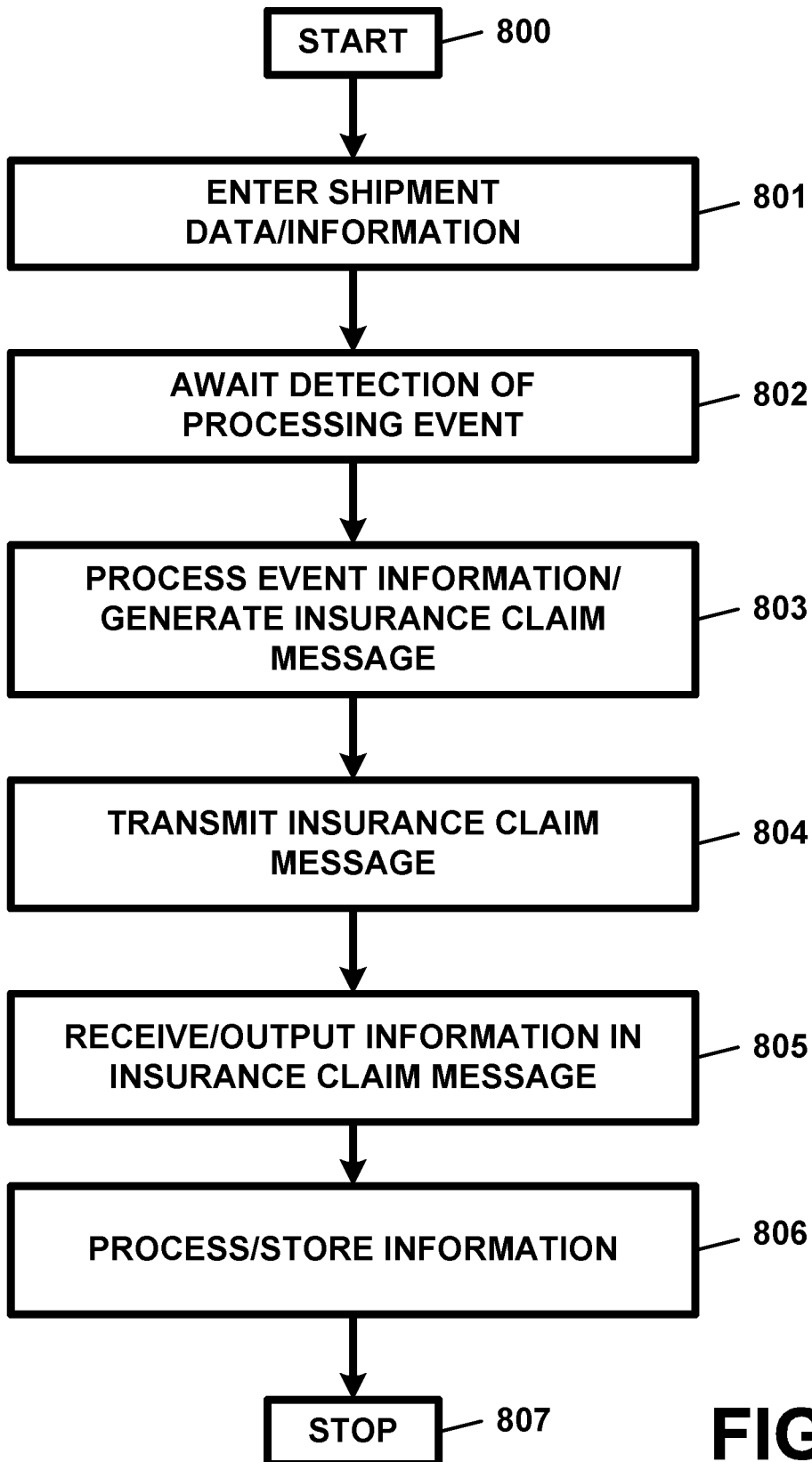


FIG. 8

APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION

RELATED APPLICATIONS

This application is a continuation application of U.S. patent application Ser. No. 15/810,167, filed Nov. 13, 2017, and entitled "APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION", now U.S. Pat. No. 10,181,109, the subject matter and teachings of which are hereby incorporated by reference herein in their entirety, which application, in turn, is a continuation application of U.S. patent application Ser. No. 12/317,504, filed Dec. 24, 2008, and entitled "APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION", now U.S. Pat. No. 9,847,029, which, in turn, is a continuation application of U.S. patent application Ser. No. 11/405,146, filed Apr. 17, 2006, and entitled "APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION", now U.S. Pat. No. 7,482,920, which, in turn, is a continuation application of U.S. patent application Ser. No. 10/055,116, filed Jan. 22, 2002, and entitled "APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION", now U.S. Pat. No. 7,253,731, the subject matter of which is hereby incorporated by reference herein. U.S. patent application Ser. No. 10/055,116, filed Jan. 22, 2002, now U.S. Pat. No. 7,253,731, claims the benefit of priority of U.S. Provisional Patent Application Ser. No. 60/263,877, filed Jan. 23, 2001, and entitled "APPARATUS AND METHOD FOR PROVIDING SHIPMENT INFORMATION", the subject matter of which is hereby incorporated by reference herein.

FIELD OF THE INVENTION

The present invention pertains to an apparatus and method for providing shipment information and, in particular, to an apparatus and method for providing shipment information which can be attached to, integrated with, located and/or positioned on, and/or located and/or positioned in, a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure or apparatus.

BACKGROUND OF THE INVENTION

The shipping, delivery, and freight, services industries account for billions of dollars in revenues annually. Billions of dollars are spent each year in shipping and/or delivering goods, products, items, and/or other objects, which are the subject of commercial as well as non-commercial transactions. In recent years, the growth of electronic commerce and electronic retailers (so called "e-tailers") has only increased the need for shipping, delivery, and/or freight delivery, services.

In a great majority of instances, shipped or delivered goods, products, items, and/or other objects, are shipped in shipping containers, on pallets, in cargo containers, in boxes, in envelopes, and/or in totes. Senders or receivers of shipped goods, products, items, and/or other objects, have only very limited means available to them for obtaining shipment information regarding shipments in transit and/or in the possession of a carrier or transporter.

In this ever-growing information age, the ability to have information available at one's fingertips, and/or in an instant, continues to fuel the desire to have more and more information accessible upon demand. With an ever-increasing amount of goods, products, items, and/or objects, being

the subject of shipments and/or deliveries, there is no doubt that tremendous value can be found in allowing a sender, a carrier, or a receiver, of a shipment or delivery, to obtain information regarding the respective shipment or delivery while the respective shipment or delivery is in progress and/or shortly thereafter.

Many goods, products, items, and/or objects, are shipped or delivered on, or in, reusable shipping conveyance devices, pallets, containers, boxes, envelopes, and/or totes. Presently, there appears to be no system or device available which can facilitate providing shipment information, regarding a shipment or delivery, to interested parties.

SUMMARY OF THE INVENTION

The present invention pertains to an apparatus and method for providing shipment information which overcomes the shortfalls of the prior art. The present invention provides an apparatus and method for providing shipment information which can be attached to, integrated with, located and/or positioned on, and/or located and/or positioned in, a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure or apparatus.

The present invention also provides an apparatus and method for providing and/or for processing information regarding a shipment of goods, products, items, entities, objects, and/or any other entities which can be shipped and/or transported via any of the herein-described shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses.

The present invention can be utilized on, positioned on, positioned in, located on, located in, integrated with, built-into, or utilized in conjunction with, any of the herein-described shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses.

The present invention also provides a system for utilizing the apparatus and method of the present invention in conjunction with a carrier computer, a sender or shipping entity computer, a receiver or receiving entity computer, and/or a central processing computer, for facilitating use of the apparatus and method of the present invention in a network environment.

The present invention can be utilized in conjunction with shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses, of any size, kind, or type.

The present invention includes a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure, and a shipment conveyance device computer.

The present invention can also include a carrier computer or communication device which is associated with the carrier which is utilized to transport the shipment conveyance device.

The present invention can also include a sender or shipping entity computer or communication device which is associated with the a sender or shipping entity who or which is effecting shipment of the respective goods, products, items, entities, objects, and/or any other entities, which can be shipped on, in, or in conjunction with, the shipment conveyance devices.

The present invention also includes a receiver or receiving entity computer or communication device which is associated with the a receiver or receiving entity who or which is receiving shipment of the respective goods, products, items,

entities, objects, and/or any other entities, which can be shipped on, in, or in conjunction with, the shipment conveyance devices.

The present invention can also include a central processing computer which can be utilized to administer, manage, and/or control, the operation of the system and/or any of the shipment conveyance device computers, the carrier computers, the sender computers, and/or the receiver computers.

The shipment conveyance device computers, carrier computers, sender computers, receiver computers, and/or central processing computers, can communicate with, transmit information to, and/or receive information from, any shipment conveyance device computers, carrier computers, sender computers, receiver computers, and/or central processing computers, over any suitable communication network or system, including, but not limited to a telephone network, a telecommunication network, a digital communication network, a satellite communication network, a wireless communication network, a personal communication services network, a broadband communication network, a bluetooth communication network, the Internet, the World Wide Web, and/or any other communication network and/or system.

The present invention can be utilized on, over, and/or in conjunction with, any suitable communication network or system, including, but not limited to a telephone network, a telecommunication network, a digital communication network, a satellite communication network, a wireless communication network, a personal communication services network, a broadband communication network, a bluetooth communication network, the Internet, the World Wide Web, and/or any other communication network and/or system.

Any of the shipping conveyance device computers, the carrier computers, the sender computers, the receiver computers, and/or the central processing computers, can include, a central processing unit (CPU), a random access memory (RAM), a read only memory (ROM), an input device, a reading or scanning device, a display device, a receiver, a transmitter, a database, and an output device, and/or any other devices needed and/or desired for performing the functions of the respective computers.

The shipment conveyance device computer can also include a global positioning device which can be utilized in order to determine the position and/or location of the shipment conveyance device computer. The shipment conveyance device computer can also include a sensor device which be utilized in order to monitor and/or to measure temperature, impact forces, and/or other environmental activity and/or other activity involving the shipment conveyance device computer.

The present invention can be utilized on, in, and/or in conjunction with shipment conveyance devices, pallets, containers, refrigerated containers, protective containers, totes, boxes, envelopes, bags, canvas bags, and/or any shipment conveyance structures or apparatuses, of any size, kind, or type.

The present invention can be utilized on, in, and/or in conjunction with, shipment conveyance devices can also be cargo containers or any type, kind, shape, or size, which can be utilized trucks, cars, vehicles, trains, boats, ships, marine vessels, aircraft, airplanes, of any kind or type for performing ground, sea and air, transport. The shipping conveyance device computer can be attached to, built into, integrated with, and/or placed inside, the shipping conveyance device.

The present invention can be utilized in order to provide information regarding a shipment or delivery to any one or more of a carrier or transporter of the shipment, to the

receiver or receiving entity of the shipment, and/or to the central processing computer and/or to the operator or administrator of the present invention.

The present invention can also be utilized in order to access the shipment conveyance device computer, via any one or more of the respective carrier computer(s), sender computer(s), receiver computer(s), and/or the central processing computer(s), and to obtain information regarding the shipment from the shipment conveyance device computer.

The present invention can also provide location information and/or position information regarding the shipment. The present invention can also provide status updates to any one or more of the carrier, the sender, the receiver, and/or an administrator, regarding the shipment.

The present invention can also generate status messages which can contain information regarding the shipment. The present invention can also transmit the status messages to any of the respective carrier computers, the sender computer(s), the receiver computer(s), and/or the central processing computer(s).

Upon the delivery of the shipment, the present invention can be utilized in order to access and obtain information from the shipment conveyance device computer.

The present invention can also generate a shipment delivery message and transmit same to any one or more of the carrier computer(s), the sender computer(s), the receiver computer(s), and/or the central processing computer(s).

The present invention can also be utilized in order to provide notification to any one or more of a sender, a carrier, a receiver, and/or an administrator, of any one or more of a lost shipment, an off-track shipment, a delayed shipment, a damaged shipment, and/or a mis-delivered shipment.

The present invention can await the detection of a processing event and generate an appropriate notification message in order to provide notification to any one or more of the carrier, the sender, the receiver, and/or the administrator, of the detected processing event.

In another preferred embodiment, the apparatus and method of the present invention can be utilized in order to verify that a shipment is being delivered to the proper receiver.

The present invention can determine whether a receiver is the correct receiver for receiving the shipment. If the receiver is not the correct receiver of the shipment, the present invention can generate an appropriate signal or stimulus which can be provided to the receiver or the carrier. The present invention can also cancel the delivery and generate and transmit, to a respective party or parties, a mis-delivered notification message indicating that the receiver is not the correct receiver.

If the present invention determines that the receiver is the correct receiver, the present invention can generate an appropriate signal or stimulus which can be provided to the receiver or the carrier. The present invention can also generate a delivery notification message and transmit same, to a respective party or parties, indicating that the receiver is the correct receiver and/or that delivery of the shipment has been effected.

The present invention can also be utilized in order to generate and/or process information regarding an insurance claim involving a shipment which has been lost, stolen, damaged, and/or mis-delivered, during shipment, transport, and/or delivery, by the carrier.

The present invention can await the detection of a processing event which can lead to the filing of an insurance claim regarding or relating to the shipment. The present invention can detect the processing event, process informa-

5

tion regarding same and/or relating to same, and generate an insurance claim message which contains information regarding the processing event and information for filing an appropriate insurance claim.

The present invention can also transmit the insurance claim message to any one or more of the carrier, the sender, the receiver, and/or the administrator. The present invention can also transmit the insurance claim message to any one or more of the carrier computer, the sender computer, the receiver computer, and/or the central processing computer.

Accordingly, it is an object of the present invention to provide an apparatus and method for providing shipment information.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can be attached to, integrated with, located and/or positioned on, and/or located and/or positioned in, a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure or apparatus.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can process information regarding a shipment of goods, products, items, entities, objects.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can process information regarding a shipment of goods, products, items, entities, objects which can be shipped and/or transported via shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses.

It is another object of the present invention to provide an apparatus and method for providing shipment information which provides a system for utilizing the apparatus and method of the present invention.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which provides a system for utilizing the apparatus and method of the present invention in conjunction with a carrier computer, a sender or shipping entity computer, a receiver or receiving entity computer, and/or a central processing computer.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information in a network environment.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in conjunction with shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses, of any size, kind, or type.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized on, or over, any one or more of a telephone network, a telecommunication network, a digital communication network, a satellite communication network, a wireless communication network, a personal communication services network, a broadband communication network, a bluetooth communication network, and/or any communication network.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized on, or over, the Internet and/or the World Wide Web.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in conjunction with a global positioning system.

6

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in conjunction with a locating and/or positioning system.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized to determine the position and/or location of the a shipment.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized to determine the position and/or location of the a shipment conveyance device or a shipment conveyance device computer.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized to monitor and/or to measure temperature, impact forces, and/or other environmental activity and/or other activity involving the a shipment, a shipment conveyance device, or a shipment conveyance device computer.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in conjunction with any one or more of ground, land, rail, sea, water, and air, shipments or deliveries.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in order to provide information regarding a shipment to a sender of the shipment, to a carrier of the shipment, or a receiver of the shipment.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in order to access a shipment conveyance device computer.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in order to access and obtain information from a shipment conveyance device computer.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can provide status information, updates, or messages, regarding a shipment.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can provide status information, updates, or messages, regarding a shipment to a carrier, a sender, or a receiver, of a shipment.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can provide shipment delivery information or messages regarding a shipment.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can provide shipment delivery information or messages regarding a shipment to a carrier, a sender, or a receiver, of a shipment.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can provide notification of a lost shipment, an off-track shipment, a delayed shipment, a damaged shipment, or a mis-delivered shipment, to a sender, a carrier, or a receiver, of a shipment.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can detect a processing event.

It is another object of the present invention to provide an apparatus and method for providing shipment information

which can provide a notification message to a sender, carrier, or receiver, in response to a detection of a processing event.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can be utilized in order to verify that a shipment is being delivered to the correct receiver.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can determine whether a receiver is the correct receiver for receiving a shipment.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can cancel a delivery of a shipment upon determining that a receiver is not the correct receiver of a shipment.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which provide information of a delivery of a shipment to a wrong party.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can determine that a shipment is delivered to a correct party.

It is another object of the present invention to provide an apparatus and method for providing shipment information which provides a delivery notification message.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which provides a delivery notification message to a sender, a carrier, or a receiver, of a shipment.

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which provides information regarding an insurance claim involving a shipment which has been lost, stolen, damaged, and/or mis-delivered.

It is another object of the present invention to provide an apparatus and method for providing shipment information which can file an insurance claim regarding or relating to a shipment.

It is still another object of the present invention to provide an apparatus and method for providing shipment information which can detect a processing event which gives rise to a filing of an insurance claim

It is yet another object of the present invention to provide an apparatus and method for providing shipment information which can provide an insurance claim message to a carrier, a sender, a receiver, or an insurer.

Other objects and advantages of the present invention will be apparent to those skilled in the art upon a review of the Description of the Preferred Embodiments taken in conjunction with the Drawings which follow.

BRIEF DESCRIPTION OF THE DRAWINGS

In the Drawings:

FIG. 1 illustrates a block diagram of the system in which the apparatus and method of the present invention can be utilized;

FIG. 2 illustrates the shipment conveyance device computer of FIG. 1, in block diagram form;

FIG. 3 illustrates a pallet in conjunction with which the shipment conveyance device computer, and/or the system of the present invention, can be utilized;

FIG. 4 illustrates a container in conjunction with which the shipment conveyance device computer, and/or the system of the present invention, can be utilized;

FIG. 5 illustrates a preferred embodiment method for utilizing the apparatus and method of the present invention, in flow diagram form;

FIG. 6 illustrates another preferred embodiment method of utilizing the apparatus and method of the present invention, in flow diagram form;

FIGS. 7A and 7B illustrate another preferred embodiment method of utilizing the apparatus and method of the present invention, in flow diagram form; and

FIG. 8 illustrates another preferred embodiment method of utilizing the apparatus and method of the present invention, in flow diagram form.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

The present invention pertains to an apparatus and method for providing shipment information and, in particular, to an apparatus and method for providing shipment information which can be attached to, integrated with, located and/or positioned on, and/or located and/or positioned in, a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure or apparatus.

The present invention provides an apparatus and method for providing and/or for processing information regarding a shipment of goods, products, items, entities, objects, and/or any other entities which can be shipped and/or transported via any of the herein-described shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses.

The apparatus and method of the present invention can be utilized on, positioned on, positioned in, located on, located in, integrated with, built-into, or utilized in conjunction with, any of the herein-described shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses. In this manner, the present invention provides a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure or apparatus, which includes an apparatus for providing shipment information.

The present invention also provides a system for utilizing the apparatus and method of the present invention in conjunction with a carrier computer, a sender or shipping entity computer, a receiver or receiving entity computer, and/or a central processing computer, for facilitating use of the apparatus and method of the present invention in a network environment.

The present invention can be utilized in conjunction with shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses, of any size, kind, or type.

As used herein, the term "shipment conveyance device", or the plural of same, refers to any shipment conveyance devices, pallets, containers, refrigerated containers, protective containers, railroad contained, tractor trailer containers, air freight containers, marine vessel shipment containers, totes, boxes, envelopes, bags, canvas bags, luggage, baggage, and/or any shipment conveyance structures or apparatuses, of any size, kind, or type.

As used herein, the terms "sender", "sending entity", "shipper", or the plural of same, refers to any senders, sending entities, shippers, shipper entities, merchants, vendor, goods providers, products providers, services providers, individuals, or entities, or the employees or agents of same, who or which can provide for a shipment or any good(s), product(s), or service(s).

As used herein, the terms “carrier”, “transporter”, “shipper”, “shipping service provider”, “deliverer”, delivery provider”, or like entity, or the plural of same, refers to any carriers, transporters, shippers, shipping service providers, deliverers, delivery providers, individuals, entities, or like entities, or the employees or agents of same, who or which provide for the shipment, transport, or delivery, via any one or more of ground or land transportation, rail transportation, water or sea transportation, air transportation, underwater transportation, and/or manned and/or unmanned transportation, of any of the herein-described goods, products, and/or services, which are described herein as being shipped or sent by any of the herein-described senders or sending entities.

As used herein, the terms “receiver”, “receiving entity”, or the plural of same, refers to any receivers, receiving entities, customers, clients, individuals, entities, and/or other like entities, or the employees or agents of same, who or which receive any of the herein-described goods, products, and/or services, which are described herein as being shipped or sent by any of the herein-described senders or sending entities.

As defined herein, the terms “operator”, “administrator”, or like entity, or the plural of same, refers to any operators, administrators, individuals, or entities, or the employees or agents of same, who or which operate, or administer the operation of, any of the central processing computers and/or the apparatus and method of the present invention.

Applicant hereby incorporates by reference herein the subject matter and teachings of U.S. Provisional Patent Application Ser. No. 60/263,877 which teaches and discloses an apparatus and method for providing shipment information.

FIG. 1 illustrates a system in which the apparatus and method of the present invention can be utilized. The system of FIG. 1 is designated generally by the reference numeral **100**. The system **100** of FIG. 1 includes a shipment conveyance device, a pallet, a container, a tote, and/or any shipment conveyance structure **10** (hereinafter referred to as a “shipment conveyance device **10**”, “pallet **10**”, or “container **10**”). The system **100** also includes a shipment conveyance device computer **20** which can be attached to, built into, integrated into, and/or located inside, the shipment conveyance device **10**.

With reference to FIG. 1, the system **100** also includes a carrier computer or communication device **30** (hereinafter referred to as the “carrier computer **30**”) which is associated with the carrier which is utilized to transport the shipment conveyance device **10**. The carrier computer **30** can be any one or more of a computer, a computer system, a group of computers, a telephone, a personal computer, a wireless telephone, a personal digital assistant, a video telephone, a personal communication device, a wireless device, a handheld device, a palm-top device, and/or any other communication device(s) and/or computer(s).

The carrier computer **30** can be located at, or in, the carrier vehicle. The carrier computer **30** can also be located at, or in, a regional or central carrier office. The carrier computer **30** can also be a wireless or hand-held device which can be a mobile device.

With reference to FIG. 1, the system **100** also includes a sender or shipping entity computer or communication device **40** (hereinafter referred to as the “sender computer **40**”) which is associated with the sender or shipping entity who or which is effecting shipment of the respective goods, products, items, entities, objects, and/or any other entities, which can be shipped on, in, or in conjunction with, the shipment conveyance devices **10**.

The sender computer **40** can be any one or more of a computer, a computer system, a group of computers, a telephone, a personal computer, a wireless telephone, a personal digital assistant, a video telephone, a personal communication device, a wireless device, a handheld device, a palm-top device, and/or any other communication device(s) and/or computer(s).

With reference to FIG. 1, the system **100** also includes a receiver or receiving entity computer or communication device **50** (hereinafter referred to as the “receiver computer **50**”) which is associated with the a receiver or receiving entity who or which is receiving shipment of the respective goods, products, items, entities, objects, and/or any other entities, which can be shipped on, in, or in conjunction with, the shipment conveyance devices **10**.

The receiver computer **50** can be any one or more of a computer, a computer system, a group of computers, a telephone, a personal computer, a wireless telephone, a personal digital assistant, a video telephone, a personal communication device, a wireless device, a handheld device, a palm-top device, and/or any other communication device(s) and/or computer(s).

With reference to FIG. 1, the system **100** also includes a central processing computer **60** which can be utilized to administer, manage, and/or control, the operation of the system **100** and/or any of the shipment conveyance device computers **20**, the carrier computers **30**, the sender computers **40**, and/or the receiver computers **50**, described herein.

The central processing computer **60** can be a computer, a computer system, a network computer, a server computer, and/or a communication device, and/or any combination of same.

The central processing computer **60** can service any number of the herein-described shipment conveyance devices **10**, shipment conveyance device computers **20**, carrier computers **30**, sender computers **40**, and/or receiver computers **50**.

The system **100** can include any number of shipment conveyance devices **10**, shipment conveyance device computers **20**, carrier computers **30**, sender computers **40**, receiver computers **50**, and/or central processing computers **60**.

The herein-described shipment conveyance device computers **20**, carrier computers **30**, sender computers **40**, receiver computers **50**, and/or central processing computers **60**, can communicate with, transmit information to, and/or receive information from, any shipment conveyance device computers **20**, carrier computers **30**, sender computers **40**, receiver computers **50**, and/or central processing computers **60**, over any suitable communication network or system, including, but not limited to a telephone network, a telecommunication network, a digital communication network, a satellite communication network, a wireless communication network, a personal communication services network, a broadband communication network, a bluetooth communication network, the Internet, the World Wide Web, and/or any other communication network and/or system.

The system **100** can be utilized on, over, and/or in conjunction with, any suitable communication network or system, including, but not limited to a telephone network, a telecommunication network, a digital communication network, a satellite communication network, a wireless communication network, a personal communication services network, a broadband communication network, a bluetooth communication network, the Internet, the World Wide Web, and/or any other communication network and/or system.

Any of the carrier computers 30, sender computers 40, receiver computers 50, and/or central processing computers 60, can include, where appropriate and/or where suitable, a central processing unit (CPU), a random access memory (RAM), a read only memory (ROM), an input device, a reading or scanning device, a display device, a receiver, a transmitter, a database, and an output device. Any of the carrier computers 30, sender computers 40, and/or receiver computers 50, can also contain any other devices or peripherals needed and/or desired for programming the shipment conveyance computers 20, depositing or programming information into the shipment conveyance computers 20, and/or reading or extracting information from the shipment conveyance computers 20.

FIG. 2 illustrates the shipment conveyance device computer 20 of FIG. 1, in block diagram form. The shipment conveyance device computer 20 can provide and/or perform any of the processing routines or functionality described herein.

With reference to FIG. 2, the shipment conveyance device computer 20 includes a central processing unit or CPU 20A, which in the preferred embodiment, is a microprocessor. The CPU 20A can also be a microcomputer, a minicomputer, a macro-computer, and/or a mainframe computer, depending upon the application.

The shipment conveyance device computer 20 also includes a random access memory device(s) 20B (RAM) and a read only memory device(s) 20C (ROM), each of which is connected to the CPU 20A.

The shipment conveyance device computer 20 can also include an input device 20D, for entering data, information, and/or commands into the shipment conveyance device computer 20. The input device can be or can include any one of more of a keyboard, a pointing device, such as, for example, a mouse or a touch pad, etc., a scanner, a scanning device, a reading device for reading data and/or information provided from a scanner, a data and/or information reading device, a reader, a card reader, a magnetic stripe card reader, a bar code reader, an optical reader, and/or any other input device for entering and/or for receiving data and/or information in any form, including, but not limited to, electronic form, optical form, magnetic form, and/or in any other suitable form or format. The input device(s) is also connected to the CPU 20A.

The shipment conveyance device computer 20 can also include a display device 20E, such as, for example, a display screen or device for displaying data and/or information to a user or other individual. The display device can be a display screen, a liquid crystal display screen, a light emitting diode screen, and/or any other appropriate and/or suitable display device or display screen. The display device 20E can display any of the herein-described data and/or information which is described herein as being input into, processed by, and/or output from, the shipment conveyance device computer 20.

The shipment conveyance device computer 20 also includes a transmitter(s) 20F, for transmitting signals and/or data and/or information from the shipment conveyance device computer 20 to any one or more of the carrier computers 30, the sender computers 40, the receiver computers 50, the central processing computers 60, and/or any of the other shipment conveyance device computers 20 described herein.

The shipment conveyance device computer 20 also includes a receiver 20G, for receiving signals and/or data and/or information from any one or more of the carrier computers 30, the sender computers 40, the receiver com-

puters 50, the central processing computers 60, and/or any of the other shipment conveyance device computers 20 described herein.

With reference to FIG. 2, shipment conveyance device computer 20 also includes a database 20H. The database 20H can contain any data, information, software programs, software algorithms, and/or any other information needed and/or desired for performing any of the processing routines and/or functionality described herein as being performed by the shipment conveyance device computer(s) 20 and/or by the system 100.

The database 20H can contain data and/or information regarding and/or relating to the respective goods, products, items, entities, objects, and/or any other entities which are being shipped and/or transported via the respective shipment conveyance device 10, including, but not limited to, a description of the respective goods, products, items, entities, objects, and/or any other entities, the quantity of the respective goods, products, items, entities, objects, and/or any other entities, the sender or shipper of the respective goods, products, items, entities, objects, and/or any other entities, the origination of the respective goods, products, items, entities, objects, and/or any other entities, the receiver or receiving entity of the respective goods, products, items, entities, objects, and/or any other entities, the destination of the respective goods, products, items, entities, objects, and/or any other entities, the cost, value, or price, of the respective goods, products, items, entities, objects, and/or any other entities, the shipping cost of the respective goods, products, items, entities, objects, and/or any other entities, the carrier, transporter, or deliverer, of the respective goods, products, items, entities, objects, and/or any other entities, special instructions regarding the shipment, carriage, or transportation, of the respective goods, products, items, entities, objects, and/or any other entities, and handling instructions regarding and/or pertaining to the respective goods, products, items, entities, objects, and/or any other entities, shipping, delivery, and/or travel.

The database 20H can also contain data and/or information regarding the shipment, handling, or delivery, instructions regarding the respective goods, products, items, entities, objects, and/or any other entities. For example, the database 20H can also contain information regarding whether the respective goods, products, items, entities, objects, and/or any other entities, is or are perishable, is or are fragile, must be heated, must be refrigerated, temperature requirements during shipment, etc. The database 20H can also contain loading and/or unloading, as well as, handling instructions during shipment, for any of the respective goods, products, items, entities, objects, and/or any other entities.

The database 20H can also contain data and/or information regarding invoice information regarding the shipment or delivery of the respective goods, products, items, entities, objects, and/or any other entities, packing slip information regarding the respective goods, products, items, entities, objects, and/or any other entities, insurance information regarding the respective goods, products, items, entities, objects, and/or any other entities, and expected or projected delivery time information regarding the respective goods, products, items, entities, objects, and/or any other entities.

The database 20H can also contain data and/or information regarding the from and/or manner of payment and/or payment instructions (i.e. cash on delivery, electronic payment on delivery, allowed credit amount, payment due information, payment due by information, sender's financial account information, etc.)

The database 20H can also contain position information, location information, digitized map data and/or information, and/or any other information which can be utilized by, or in conjunction with, the global positioning device 20J.

The database 20H can also contain data and/or information regarding the location or position of stops made by the carrier, transporter, or deliverer, of the respective shipment conveyance device 10 and/or the shipment conveyance device computer 20, during the transportation of the respective goods, products, items, entities, objects, and/or any other entities, and the respective shipment conveyance device 10, during the shipment, transportation, or delivery, of same from its point of origin to its delivery destination.

The database 20H can also contain data and/or information regarding the travel log for the respective goods, products, items, entities, objects, and/or any other entities, and/or for the respective shipment conveyance device(s) 10, and/or the time in transit, distance traveled, etc., for or regarding the goods, products, items, entities, objects, and/or any other entities, and/or for the respective shipment conveyance device(s) 10. The database 20H can also contain data and/or information regarding the usage history of the respective shipment conveyance device(s) 10, including, but limited to, the time deployed in service, the number of times used, and/or the service time or service history since initial deployment.

The database 20H can also contain data and/or information regarding the maintenance history of the respective shipment conveyance device(s) 10 and/or shipment conveyance device computer 20.

The database 20H can also contain data and/or information, including software programs and/or algorithms, for facilitating communication of the shipment conveyance device computer 20 with any of the herein-described carrier computers 30, sender computers 40, receiver computers 50, central processing computers 60, and/or any other the shipment conveyance device computer 20. The database 20H can also contain data and/or information, including software programs and/or algorithms, for facilitating data and/or information transmission between, from, and/or to, respectively, the shipment conveyance device computer 20 and any of the herein-described carrier computers 30, sender computers 40, receiver computers 50, central processing computers 60, and/or any other the shipment conveyance device computer 20.

The database 20H can also contain an electronic signature, electronic signatures, and/or electronic signature information for, regarding, and/or relating to, any of the herein-described senders, sending entities, shippers, carriers, transporters, delivery service providers, receivers, receiving entities, and/or any other individuals, parties, and/or entities, which or which may utilize the shipment conveyance device computer 20 and/or who or which may be involved in a shipment, transport, and/or delivery, involving same. The electronic signature, electronic signatures, and/or electronic signature information, can be utilized and/or processed in the processing and/or consummation of any transactions involving any respective parties involved in any of the herein-described shipment, transporting, and/or delivery, activities.

The database 20H can also contain electronic payment information, electronic and/or digital money information, payment identification information, credit account information, credit card account information, charge account information, charge card account information, debit account information, debit card account information, electronic money account information, letter of credit information,

financial account information, for, corresponding to, and/or relating to, any of respective parties involved in any of the herein-described shipment, transporting, and/or delivery, activities.

The database 20H can also contain any other data and/or information for facilitating the processing of, the consummation of, and/or the execution or, financial transactions between and/or involving any of the respective parties involved in any of the herein-described shipment, transporting, and/or delivery, activities.

The database 20H can also contain any other data and/or information needed and/or desired for facilitating the operation of the apparatus and method of the present invention as described herein.

Any of the herein-described data and/or information which can be stored in the database 20H can be input into the shipment conveyance device computer 20 and/or can be programmed into and/or pre-stored in the database 20H.

With reference once again to FIG. 2, the shipment conveyance device computer 20 can also include an output device 201 such as a printer, a modem, a fax/modem, a reader/transmitter device for providing data and/or information to an external scanner, a reader, or other reading and/or receiving device, a card reader/transmitter device for providing data and/or information to an external scanner, a card reader/transmitter device for providing data and/or information to an external scanner, a reader, or other reading and/or receiving device, a magnetic card reader/transmitter device for providing data and/or information to an external scanner, a reader, or other reading and/or receiving device, an optical a card reader/transmitter device for providing data and/or information to an external scanner, a reader, or other reading and/or receiving device, an electronic data reader/transmitter device for providing data and/or information to an external scanner, a reader, or other reading and/or receiving device, a reader/transmitter device for providing data and/or information to an external scanner, a reader, or other reading and/or receiving device, and/or any other reading and/or receiving device and/or output device, for outputting information to any one or more of a carrier, a shipper, a transporter, a sender, and/or a receiver, and/or any respective reading or scanning device associated therewith or utilized thereby, who or which utilizes the apparatus and method of the present invention.

The output device 201 can also be a programmable bar code display device or other code display device which can be displayed and which can be reader by an appropriate bar code reader or code reader. In the preferred embodiment, the bar code display device or other code display device can provide a code, bar code or otherwise, through a glare-proof screen. The bar code or other code can be provide information regarding the data and/or information being output from the shipment conveyance device computer 20.

The displayed code can also be a dynamically changing code which can contain the data and/or information which is currently being output. In this regard, for example, the shipment conveyance device computer 20 can output various data and/or information via the same output device 201 by utilizing a multitude of bar codes or codes.

The output device 201 can also be a speaker for providing an audio signal or audible stimulus, indication, and/or information, to a user and/or can also be a light or lighting device for providing a visual signal or visual stimulus, indication, and/or information, to a user.

The shipment conveyance device computer 20 can also include a global positioning device 20J which can be utilized

15

in order to determine the position and/or location of the shipment conveyance device computer **20**.

The shipment conveyance device computer **20** can also include a sensor device **20K** which can be any one of more of a thermometer for measuring and/or monitoring shipping temperature, a shock detection device for measuring and/or monitoring shocks, impacts, and/or other forces which may be exerted on the shipment conveyance device **10**, and/or a proximity detection device for monitoring and/or detecting the physical proximity of the shipment conveyance device **10** and/or the shipment conveyance device computer **20** with any one or more of any other shipment conveyance device **10**, shipment conveyance device computer **20**, carrier computer **30**, sender computer **40**, and/or receiver computer **50**.

The sensor device **20K** can also include multiple sensing elements which can be placed at various locations in, on, and/or in conjunction with the shipment conveyance device **10**. Each of the multiple sensing elements can be utilized in order to sense or detect if the shipment conveyance device **10** has been damaged and/or broken and/or otherwise compromised.

The apparatus and method of the present invention, and/or particular, the shipment conveyance device computer **20**, can be utilized on, in, and/or in conjunction with shipment conveyance devices, pallets, containers, refrigerated containers, protective containers, totes, boxes, envelopes, bags, canvas bags, and/or any shipment conveyance structures or apparatuses, of any size, kind, or type.

The apparatus and method of the present invention can be utilized on, in, and/or in conjunction with shipment conveyance devices can also be cargo containers or any type, kind, shape, or size, which can be utilized trucks, cars, vehicles, trains, boats, ships, marine vessels, aircraft, airplanes, of any kind or type for performing ground, sea and air, transport. The shipping conveyance device computer **20** can be attached to, built into, integrated with, and/or placed inside, the shipping conveyance device **10**. For example, the shipping conveyance device computer **20** can be built into, or be an integrated component of, a pallet, container, or shipping structure. The shipping conveyance device computer **20** can also be inside a box, container, tote bag, canvas tote bag, piece of baggage, etc. so as to be placed with the contents of the shipment.

FIG. **3** illustrates a pallet in conjunction with which the shipment conveyance device computer **20**, and/or the system **100** of the present invention, can be utilized. The pallet can be constructed and/or manufactured from plastic, rubber, wood, metal, and/or any other suitable material(s), combination of the above-described materials, and/or composites of the above-described materials.

The pallet illustrated in FIG. **3** is an example of a pallet with which the apparatus and method of the present invention can be utilized. The apparatus and method of the present invention can also be utilized with pallets of any kind, type, shape, or size.

In the preferred embodiment, the shipment conveyance device computer **20** can be placed in any portion or member of the pallet, in a recessed or molded space in or on any portion or member of the pallet. For example, a member component of the pallet can be manufactured such that the shipment conveyance device computer **20** can be placed thereon or thereon in any appropriate manner. In a preferred embodiment, the shipment conveyance device computer **20** can be placed or located in a manner so as to avoid damage thereto or interference therewith.

16

In the preferred embodiment of FIG. **3**, the shipment conveyance device computer **20** is located at the position shown on the pallet **10**.

FIG. **4** illustrates a container in conjunction with which the shipment conveyance device computer **20**, and/or the system **100** of the present invention, can be utilized. The container can be constructed and/or manufactured from plastic, rubber, wood, metal, and/or any other suitable material(s), combination of the above-described materials, and/or composites of the above-described materials. The container can be any type of container and can be a general purpose container, a refrigerated container, a heated container, an insulated container and/or any other type of container which can be utilized in order to ship any of the herein-described goods, products, items, entities, objects, and/or any other entities which can be shipped and/or transported via any of the herein-described shipment conveyance devices, pallets, containers, totes, and/or any shipment conveyance structures or apparatuses.

The container illustrated in FIG. **4** is an example of a container with which the apparatus and method of the present invention can be utilized. The apparatus and method of the present invention can also be utilized with containers of any kind, type, shape, or size.

In the preferred embodiment, the shipment conveyance device computer **20** can be placed in any portion or member of the container, in a recessed or molded space in or on any portion or member of the container. For example, a member component of the container can be manufactured such that the shipment conveyance device computer **20** can be placed thereon or thereon in any appropriate manner. In a preferred embodiment, the shipment conveyance device computer **20** can be placed or located in a manner so as to avoid damage thereto or interference therewith.

In the preferred embodiment of FIG. **4**, the shipment conveyance device computer **20** is located at the position shown on the container **10**.

The apparatus and method of the present invention, as well as the system **100** of the present invention can be utilized in a number of preferred embodiments in order to provide shipment information.

The present invention, in a preferred embodiment, can be utilized in order to provide information regarding a shipment or delivery to any one or more of a carrier or transporter of the shipment, to the receiver or receiving entity of the shipment, and/or to the central processing computer **60** and/or to the operator or administrator of the system of the present invention.

FIG. **5** illustrates a preferred embodiment method for utilizing the apparatus and method of the present invention, in flow diagram form. In the embodiment of FIG. **5**, the sender of a shipment of goods, products, items, entities, objects, and/or any other entities, can store information regarding the shipment in the shipment conveyance device computer **20**.

The sender can input information into the shipment conveyance device computer **20** manually via the input device **20D**, electronically via the receiver **20G**, and/or via any combination of manual data entry and electronic data entry.

The information can thereafter be retrieved by the carrier of the shipment and/or by the receiver of the shipment. With reference to FIG. **5**, the operation of the system **100** commences at step **5**.

At step **501**, the sender of the shipment can load the respective goods, products, items, entities, objects, and/or any other entities, onto or into the shipment conveyance device **10** which can, for example, be a pallet or container.

At step **501**, the sender can also enter data and/or information concerning or pertaining to the shipment into the shipment conveyance device computer **20**. The data and/or information which is entered into the shipment conveyance device computer **20** can be any of the data and/or information described herein as being stored in the database **20H**. In this regard, the sender can enter data and/or information regarding and one or more data and/or information regarding and/or relating to the respective goods, products, items, entities, or objects, a description of the respective goods, products, items, entities, or objects, the quantity of the respective goods, products, items, entities, or objects, the sender or shipper of the respective goods, products, items, entities, or objects, the origination of the respective goods, products, items, entities, or objects, the receiver or receiving entity of the respective goods, products, items, entities, or objects, the destination of the respective goods, products, items, entities, or objects, the cost, value, or price, of the respective goods, products, items, entities, or objects, the shipping cost of the respective goods, products, items, entities, or objects, the carrier, transporter, or deliverer, of the respective goods, products, items, entities, or object, and/or special instructions regarding the shipment, handling, carriage, or transportation, of the respective goods, products, items, entities, or objects.

The sender can also enter data and/or information regarding any one or more of invoice information regarding the shipment or delivery of the respective goods, products, items, entities, or objects, packing slip information regarding the respective goods, products, items, entities, or objects, insurance information regarding the respective goods, products, items, entities, or objects, expected or projected delivery time information regarding the shipment, position information, location information, digitized map data and/or information, information regarding the location or position of stops made by the carrier, transporter, or deliverer, of the shipment, electronic signature, electronic signatures, and/or electronic signature information for, regarding, and/or relating to, any of the herein-described senders, sending entities, shippers, carriers, transporters, delivery service providers, receivers, receiving entities, and/or any other individuals, parties, and/or entities, which or which may involved in the shipment as a sender, carrier, and/or receiver.

The sender can also enter data and/or information regarding any one or more of data and/or information regarding the from and/or manner of payment and/or payment instructions (i.e. cash on delivery, electronic payment on delivery, allowed credit amount, payment due information, payment due by information, sender's financial account information, etc.), electronic payment information, electronic and/or digital money information, payment identification information, credit account information, credit card account information, charge account information, charge card account information, debit account information, debit card account information, electronic money account information, letter of credit information, financial account information, for, corresponding to, and/or relating to, any of respective parties involved in shipment.

The data and/or information entered into the shipment conveyance device computer **20**, at step **501**, can be processed and/or stored in the database **20H**. At step **502**, the shipment conveyance device **10** is provided to the carrier. At step **503**, the shipment conveyance device **10** can be transported to its destination.

At any time during the transport of the shipment conveyance device, at step **503**, any one or more of the carrier, the sender, the receiver, and/or the central processing computer

administrator, can access the shipment conveyance computer **20** via the respective carrier computer(s) **30**, sender computer(s) **40**, receiver computer(s) **50**, central processing computer(s) **60**.

At any time, the sender can also access the shipment conveyance device computer **20** via the respective sender computer **40** and transmit data and/or information to the shipment conveyance device computer **20**. The sender can transmit new data and/or information, and/or changes and/or updates to previously entered data and/or information, to the shipment conveyance device computer **20**. The data and/or information, or changes and/or updates thereto, which can be entered and/or transmitted by the sender computer **40** to the shipment conveyance device computer **20** can be any of the data and/or information described herein as being entered and/or provided by the sender and/or can be any data and/or information which is described as being stored in the database **20H**.

The respective carrier, sender, receiver, or administrator, can obtain any of the herein-described information which is stored in the shipment conveyance device computer **20**, any of the herein-described data and/or information which is entered into the shipment conveyance device computer **20** at the time or point of shipment, position or location information and/or global positioning information of the shipment, information regarding the state of the shipment which can include the temperature of the shipment, shock damage to the shipment, time left to spoilage, damage to the shipment conveyance device **10**, and/or any other information which can be detected, obtained, and/or processed by, the shipment conveyance device computer **20**. For example, the respective carrier, sender, receiver, or administrator, can ascertain where a shipment is, the carrier containing the shipment, the location of the shipment, the contents of the shipment, the physical state or condition of the shipment and/or any other information which can be provided by the shipment conveyance device computer **20** and/or the system of the present invention.

At step **503**, the shipment conveyance device computer **20** can also provide status updates to any one or more of the carrier, the sender, the receiver, and/or the administrator, which can contain any of the above-described information which is described herein as being obtained by any of the respective entities or individuals. For example, the shipment conveyance device computer **20** which can be programmed to provide shipment location updates, shipment status updates, etc., can generate status messages regarding its position or locations, stops made by the carrier, and/or the temperature of the shipment, impacts received by the shipment conveyance device **10**, and/or other information.

The status messages can be generated and transmitted to the respective carrier computer **30**, the sender computer(s) **40**, the receiver computer(s) **50**, and/or the central processing computer(s) **60**, at pre-designated time intervals, and/or upon the occurrence of a pre-specified event (i.e. a stop made by the carrier, an impact during an accident, an unusual stopping period, a shipment temperature change, and/or any other event or occurrence relating to the shipment).

At step **504**, the shipment is delivered to its destination where it can be received by the receiver or by the receiver's agent. At step **504**, the carrier and/or the receiver can access the shipment conveyance device computer **20** can obtain, retrieve, and/or download, any of the data and/or information stored in the database **20H** of same. The data and/or information can, for example, be information regarding the contents and/or subject matter of the shipment, invoice

19

information, packing slip information, sender information, carrier information, special instructions regarding the shipment and/or payment therefor, a payment receipt, and/or any other information which can be provided to a carrier or a receiver of a shipment.

The carrier or receiver can also obtain any of the herein-described information which can be stored in and/or processed by the shipment conveyance device computer **20**. In this regard, the carrier or the receiver can retrieve or download any shipment information from the shipment conveyance device computer **20** and/or from the shipment conveyance device **10** carrying the shipment.

At step **504**, the shipment conveyance device computer **20** can also generate a shipment delivery message and transmit same, in any appropriate form or manner, to any one or more of the carrier computer(s) **30**, the sender computer(s) **40**, the receiver computer(s) **50**, and/or the central processing computer(s) **60**.

At step **505**, any of the information obtained, retrieved, and/or downloaded, at step **504**, can be output and/or printed, in hard copy form, and/or downloaded and/or stored in electronic form, by or at any of the respective carrier computer **30**, and/or the receiver computer **50**.

Thereafter, the operation of the system will cease at step **506**.

In the preferred embodiment of FIG. **5**, as well as in any and/or all of the other embodiments described herein, any of the messages generated and transmitted by the shipment conveyance device computer **20**, and/or by any of the other computers **30**, **40**, **50**, and/or **60**, can be an e-mail message, an instant messaging service message, a short message, beeper message, pager message, a telephone message, a pre-recorded telephone message, and/or any other electronic message or electronic transmission.

In another preferred embodiment, the apparatus and method of the present invention can be utilized in order to provide notification to any one or more of a sender, a carrier, a receiver, and/or an administrator, of any one or more of a lost shipment, an off-track shipment, a delayed shipment, a damaged shipment, and/or a mis-delivered shipment. FIG. **6** illustrates another preferred embodiment method of utilizing the apparatus and method of the present invention, in flow diagram form.

With reference to FIG. **6**, the operation of the system **100** commences at step **600**. At step **601**, the sender can enter or program data and/or information into the shipment conveyance device computer **20** via the sender computer **30** and/or in any other appropriate manner.

The data and/or information can include delivery origin position or location information, destination position or location information, shipment travel route information, including position or location information corresponding to points along the shipment travel route, carrier identification information, carrier code and/or electronic signature information, receiver identification information, receiver code and/or electronic signature information, shipment temperature requirements, shipment impact tolerance information, and/or any other data and/or information regarding and/or relating to the shipment. The data and/or information entered and/or programmed into the shipment conveyance device computer **20** can be processed and stored at step **601**.

At step **602**, the shipment conveyance device computer **20** can, during transport of the shipment and/or upon the delivery of the shipment to a receiver or receiving entity, await the detection of a processing event.

The processing event can be any one or more of the detection by the shipment conveyance device computer **20**

20

and, in particular, the global positioning device **20J**, of a deviation, by more than a pre-designated tolerance amount (i.e. distance measurement, mileage, etc.), of the location or position of the shipment and/or the carrier of same from a pre-determined transportation route (i.e. the shipment carrier is lost, is the wrong carrier, etc.), the detection of an unauthorized and/or the wrong carrier who or which is to transport the shipment (i.e. the detection of an unauthorized carrier code or carrier electronic signature), the detection of an unauthorized and/or the wrong receiver who or which is to receive the shipment and/or the detection of a stolen shipment (i.e. the detection of an unauthorized receiver code or receiver electronic signature, the detection of a shipment being stolen or in the possession of the wrong party, etc.), the detection of a shipment temperature which deviates from the shipment temperature requirements, and/or the detection of an impact or force of impact experienced by the shipment conveyance device **10** (i.e. a mishandling, a dropping, an accident, etc.) experienced by the shipment conveyance device computer **20**.

At step **603**, the shipment conveyance device computer **20** will generate an appropriate notification message in order to provide notification to any one or more of the carrier, the sender, the receiver, and/or the administrator, of the detected processing event. The notification message can be any one or more of an e-mail message, an instant messaging service message, a short message, beeper message, pager message, a telephone message, a pre-recorded telephone message, and/or any other electronic message or electronic transmission.

At step **604**, the notification message is transmitted to any one or more of the carrier computer **30**, the sender computer **40**, the receiver computer **50**, and/or the central processing computer **60**.

At step **605**, the information contained in the notification message can be received by, and can be output and/or displayed to the respective carrier, sender, receiver, and/or administrator, on, the respective carrier computer **30**, the sender computer **40**, the receiver computer **50**, and/or the central processing computer **60**. At step **606**, any of the information concerning the shipment and/or the processing event can be stored at the respective carrier computer **30**, the sender computer **40**, the receiver computer **50**, and/or the central processing computer **60**. Thereafter, the operation of the system **100** can cease at step **607**.

In the preferred embodiment of FIG. **6**, as well as in any and/or all of the other embodiments described herein, any of the messages generated and transmitted by the shipment conveyance device computer **20**, and/or by any of the other computers **30**, **40**, **50**, and/or **60**, can be an e-mail message, an instant messaging service message, a short message, beeper message, pager message, a telephone message, a pre-recorded telephone message, and/or any other electronic message or electronic transmission.

In another preferred embodiment, the apparatus and method of the present invention can be utilized in order to verify that a shipment is being delivered to the proper receiver. FIGS. **7A** and **7B** illustrate another preferred embodiment method of utilizing the apparatus and method of the present invention, in flow diagram form.

With reference to FIGS. **7A** and **7B**, the operation of the system **100** commences at step **700**. At step **701**, the sender can enter or program data and/or information into the shipment conveyance device computer **20** via the sender computer **30** and/or in any other appropriate manner. The data and/or information can include receiver identification information, receiver code and/or electronic signature infor-

21

mation, and/or any other of the herein-described data and/or information regarding the shipment. For example, the sender can enter a code or an electronic key or other information which, when processed in conjunction with a code or an electronic key entered by a receiver, upon delivery of the shipment to same, can be utilized in order to verify that the shipment has been delivered to the correct receiver. The data and/or information entered and/or programmed into the shipment conveyance device computer 20 can be processed and stored at step 701.

At step 702, the shipment conveyance device 10 can be shipped, transported, and/or delivered, to the receiver.

At step 703, the receiver can access the shipment conveyance device computer 20 via a receiver computer 50 and/or via the input device 20D of the shipment conveyance device computer 20. At step 703, the receiver can input its code or electronic key into the shipment conveyance device computer 20. At step 704, the shipment conveyance device computer 20 can process the receiver entered code or electronic key and process same in conjunction with the data and/or information entered into the shipment conveyance device computer 20 by the sender at step 701.

At step 705, the shipment conveyance device computer 20 will determine whether the receiver is the correct receiver for receiving the shipment. If, at step 705, the shipment conveyance device computer 20 determines that the receiver is not the correct receiver of the shipment, the operation of the shipment conveyance device computer 20 will proceed to step 706 and the shipment conveyance device computer 20 will generate an appropriate signal or stimulus which can be provided to the receiver or the carrier. The signal or stimulus can be text information provided on the display device 20E, an audible sound output by the output device 201, a lighting of a light of the output device 201, and/or the sounding of an alarm by the output device 201, and/or any other stimulus indicating that the shipment is not being delivered to the correct receiver.

Thereafter, the shipment conveyance device computer 20 will, at step 707, cancel the delivery to the receiver or party thought to be the receiver. At step 708, the shipment conveyance device computer 20 will generate a mis-delivered notification message indicating that the receiver is not the correct receiver. At step 708, the shipment conveyance device computer 20 will also transmit the mis-delivered notification message to any one or more of the sender, the carrier, the correct receiver, and/or the administrator, and/or to the respective sender computer 40, carrier computer 30, receiver computer 50, and/or the central processing computer 60, indicating that the shipment was mis-delivered, at least for the time being. The carrier can, thereafter, re-attempt the shipment, transport, or delivery, of the shipment conveyance device to the correct receiver. Thereafter, the operation of the system 100 will cease at step 709.

If, however, at step 705, it is determined that the receiver is the correct receiver, the operation of the shipment conveyance device computer 20 will proceed to step 710 and the shipment conveyance device computer 20 will generate an appropriate signal or stimulus which can be provided to the receiver or the carrier. The signal or stimulus can be text information provided on the display device 20E, an audible sound output by the output device 201, a lighting of a light of the output device 201, and/or the sounding of an alarm by the output device 201, and/or any other stimulus indicating that the shipment is being delivered to the correct receiver.

Thereafter, the shipment conveyance device computer 20 can, at step 711, consummate/effect the delivery transaction. At step 712, the shipment conveyance device computer 20

22

will generate a delivery notification message indicating that the receiver is the correct receiver and/or that delivery of the shipment has been effected. At step 712, the shipment conveyance device computer 20 will also transmit the delivery notification message to any one or more of the sender, the carrier, the correct receiver, and/or the administrator, and/or to the respective sender computer 40, carrier computer 30, receiver computer 50, and/or the central processing computer 60, indicating that the shipment was properly delivered. Thereafter, the operation of the system 100 will cease at step 713.

In the preferred embodiment of FIGS. 7A and 7B, as well as in any and/or all of the other embodiments described herein, any of the messages generated and transmitted by the shipment conveyance device computer 20, and/or by any of the other computers 30, 40, 50, and/or 60, can be an e-mail message, an instant messaging service message, a short message, beeper message, pager message, a telephone message, a pre-recorded telephone message, and/or any other electronic message or electronic transmission.

In another preferred embodiment, the apparatus and method of the present invention can be utilized in order to generate and/or process information regarding an insurance claim involving a shipment which has been lost, stolen, damaged, and/or mis-delivered, during shipment, transport, and/or delivery, by the carrier. FIG. 8 illustrates another preferred embodiment method of utilizing the apparatus and method of the present invention, in flow diagram form.

With reference to FIG. 8, the operation of the system 100 commences at step 800. At step 801, the sender can enter or program data and/or information into the shipment conveyance device computer 20 via the sender computer 30 and/or in any other appropriate manner. The data and/or information can include delivery origin position or location information, destination position or location information, shipment travel route information, including position or location information corresponding to points along the shipment travel route, carrier identification information, carrier code and/or electronic signature information, receiver identification information, receiver code and/or electronic signature information, shipment temperature requirements, shipment impact tolerance information, shipment insurance information, shipment insurance claim information, shipment insurance claims generation and/or submission information, and/or any other data and/or information regarding and/or relating to the shipment. The data and/or information entered and/or programmed into the shipment conveyance device computer 20 can be processed and stored at step 801.

At step 802, the shipment conveyance device computer 20 can, during transport of the shipment and/or upon the delivery of the shipment to a receiver or receiving entity, await the detection of a processing event.

The processing event can be any one or more of the detection by the shipment conveyance device computer 20 that the shipment has been lost (i.e. there is no record of the shipment being delivered and/or the shipment cannot be found and/or accounted for, etc.), that the shipment has been stolen (i.e. the carrier reports the shipment, and/or the carrier vehicle with the shipment, as being stolen, the carrier has not delivered the shipment to any receiver, and/or an unauthorized individual or entity has received the shipment and refuses to return same, etc.), the shipment has been damaged (i.e. perishable goods have spoiled, perished, and/or been ruined, fragile goods have been damaged, a damaging impact is detected, carrier reports involvement in accident resulting in damage to the shipment and/or shipment con-

23

tents, etc.) and/or that the shipment has been mis-delivered to an incorrect receiver, receiving entity, individual or entity.

The shipment conveyance computer 20 can detect the processing event itself via any of its herein-described processing capabilities (i.e. detecting erroneous position or location of the shipment or carrier vehicle, detecting status of shipment as contrary to shipping and/or environmental requirements, detecting an impact or damaging forces exerted on the shipment conveyance device 10, detecting mis-delivery, and/or the shipment conveyance device computer 20 can receive data and/or information from any one or more of the carrier computers 30, the sender computers 40, the receiver computers 50, and/or the central processing computers 60, which contains information regarding any of the processing events.

At step 803, the shipment conveyance device computer 20 can process the data and/or information corresponding to the processing event and generate an insurance claim message which contains information regarding the processing event and information for filing an appropriate insurance claim.

At step 804, the shipment conveyance device computer 20 will transmit the insurance claim message to any one or more of the carrier, the sender, the receiver, and/or the administrator, in order to provide information regarding the detected processing event and/or the associated insurance claim. The insurance claim information can be any one or more of an e-mail message, an instant messaging service message, a short message, beeper message, pager message, a telephone message, a pre-recorded telephone message, and/or any other electronic message or electronic transmission.

At step 804, the insurance claim message can be transmitted to any one or more of the carrier computer 30, the sender computer 40, the receiver computer 50, and/or the central processing computer 60. The central processing computer 60 can also be utilized by and/or be associated with an insurance provider and/or an insurance agent.

At step 805, the information contained in the insurance claim message can be received by, and can be output and/or displayed to the respective carrier, sender, receiver, and/or administrator, on, the respective carrier computer 30, the sender computer 40, the receiver computer 50, and/or the central processing computer 60. At step 806, any of the information concerning the insurance claim can be processed and/or stored at the respective carrier computer 30, the sender computer 40, the receiver computer 50, and/or the central processing computer 60. Thereafter, the operation of the system 100 can cease at step 807.

In the preferred embodiment of FIG. 8, any of the insurance claim messages generated and transmitted by the shipment conveyance device computer 20 can be an e-mail message, an instant messaging service message, a short message, beeper message, pager message, a telephone message, a pre-recorded telephone message, and/or any other electronic message or electronic transmission.

The apparatus and method of the present invention can be utilized in order to provide any of the herein-defined shipment conveyance devices with the information processing functionality described herein. In this manner, the present invention can be utilized in order to provide "smart" shipment conveyance devices, "smart" pallets, "smart" containers, etc., or "electronic" shipment conveyance devices, "electronic" pallets, "electronic" containers, etc., which can provide enhanced information services and/or functionality, and/or "smart" or "e-" technologies, in the shipping, transportation, and/or delivery, services fields and/or industries.

24

While the present invention has been described and illustrated in various preferred and alternate embodiments, such descriptions are merely illustrative of the present invention and are not to be construed to be limitations thereof. In this regard, the present invention encompasses all modifications, variations, and/or alternate embodiments, with the scope of the present invention being limited only by the claims which follow.

What is claimed is:

1. An apparatus, comprising:

a shipment conveyance device, wherein the shipment conveyance device is a shipping container, a pallet, or a piece of luggage;

a global positioning device, wherein the global positioning device is located in, on, or at, the shipment conveyance device, and further wherein the global positioning device determines a position or location of the shipment conveyance device;

a processor, wherein the processor generates a message in response to an occurrence of an event, or in response to a request for information regarding the shipment conveyance device which is automatically received by a receiver, wherein the message contains information regarding a shipment of the shipment conveyance device; and

a transmitter, wherein the transmitter is located in, on, or at, the shipment conveyance device, and further wherein the transmitter transmits the message to a communication device associated with an owner of the shipment conveyance device or an individual authorized to receive the message.

2. The apparatus of claim 1, further comprising:

a memory, wherein the memory stores information regarding a description of a good, product, or item, being shipped or transported via, or which is contained in or on, the shipment conveyance device, and origination information, sender information, shipper information, destination information, receiver information, handling instruction information, delivery instruction information, invoice information, packing slip information, delivery time information, or payment instruction information, regarding the shipment conveyance device.

3. The apparatus of claim 2, wherein the memory is located in, on, or at, the shipment conveyance device.

4. The apparatus of claim 1, further comprising:

the receiver, wherein the receiver is located in, on, or at, the shipment conveyance device.

5. The apparatus of claim 1, further comprising:

a display, wherein the display displays or provides information regarding the shipment conveyance device or information regarding a shipment or transportation of or involving the shipment conveyance device.

6. The apparatus of claim 5, wherein the display is located in, on, or at, the shipment conveyance device.

7. The apparatus of claim 1, wherein the message contains information regarding a stop made by a carrier of the shipment conveyance device or information regarding a shipment or a transportation of or involving the shipment conveyance device, or wherein the message contains information regarding a stopping period regarding a shipment or a transportation of or involving the shipment conveyance device.

8. The apparatus of claim 1, further comprising:

a sensor, wherein the sensor monitors or measures a temperature during a shipment or a transportation of the shipment conveyance device, a shock exerted on the

25

shipment conveyance device, an impact exerted on the shipment conveyance device, or a force exerted on the shipment conveyance device, wherein the message contains information regarding a temperature during the shipment or the transportation, a change in a shipment or transportation temperature, or an impact or force exerted on the shipment conveyance device.

9. The apparatus of claim 1, wherein the apparatus generates a delivery message, and further wherein the apparatus transmits the delivery message to the communication device.

10. The apparatus of claim 1, wherein the event is a detection of a deviation from a pre-determined shipment or transportation route associated with a shipment or a transportation of or involving the shipment conveyance device.

11. The apparatus of claim 1, wherein the event is a detection of an unauthorized carrier or a wrong carrier shipping or transporting the shipment conveyance device or a detection of an unauthorized receiver of the shipment conveyance device or a wrong receiver of the shipment conveyance device.

12. The apparatus of claim 1, wherein the shipping container, the pallet, or the piece of luggage, is a refrigerated container, a heated container, or an insulated container.

13. The apparatus of claim 1, wherein the apparatus transmits the message to a central processing computer located separate and apart from the apparatus.

14. The apparatus of claim 1, wherein the processor is located in, on, or at, the shipment conveyance device.

15. The apparatus of claim 1, wherein the shipment conveyance device is a piece of luggage.

16. The apparatus of claim 15, further comprising: the receiver, wherein the receiver is located in, on, or at, the piece of luggage; and a display, wherein the display displays or provides information regarding the piece of luggage or information regarding a shipment or transportation of or involving the piece of luggage.

17. The apparatus of claim 1, further comprising: a memory, wherein the memory stores information regarding a description of a good, product, or item, being shipped or transported via, or which is contained in, the piece of luggage.

18. The apparatus of claim 17, wherein the memory is located in, on, or at, the piece of luggage.

26

19. An apparatus, comprising: a shipment conveyance device, wherein the shipment conveyance device is a shipping container, a pallet, or a piece of luggage;

a global positioning device, wherein the global positioning device determines a position or location of the shipment conveyance device;

a processor, wherein the processor generates a message in response to an occurrence of an event, or in response to a request for information regarding the shipment conveyance device which is automatically received by a receiver, wherein the message contains information regarding a shipment of the shipment conveyance device;

a transmitter, wherein the transmitter transmits the message to a communication device associated with an owner of the shipment conveyance device or an individual authorized to receive the message; and

an input device for inputting information regarding a person or entity attempting to receive the shipment conveyance device,

wherein the processor processes the information regarding the person or entity attempting to receive the shipment conveyance device and determines whether or not the person or entity is authorized to receive the shipment conveyance device.

20. An apparatus, comprising: a shipment conveyance device, wherein the shipment conveyance device is a shipping container, a pallet, or a piece of luggage;

a global positioning device, wherein the global positioning device determines a position or location of the shipment conveyance device;

a processor, wherein the processor generates a message in response to an occurrence of an event, or in response to a request for information regarding the shipment conveyance device which is automatically received by a receiver, wherein the message contains information regarding a shipment of the shipment conveyance device; and

a transmitter, wherein the transmitter transmits the message to a communication device associated with an owner of the shipment conveyance device or an individual authorized to receive the message;

wherein the processor detects an occurrence giving rise to an insurance claim regarding the shipment conveyance device, and further wherein the message includes insurance claim information.

* * * * *