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Nielsen

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(54) **ELECTRONIC KEY DEVICE A SYSTEM AND A METHOD OF MANAGING ELECTRONIC KEY INFORMATION**

(56) **References Cited**

(75) Inventor: **Ernst Lykke Nielsen, Køge (DK)**

(73) Assignee: **Bording Data A/S, Glostrup (DK)**

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G08B 29/00 (2006.01)
H04B 1/00 (2006.01)

(52) **U.S. Cl.** **340/5.6; 340/5.61; 340/5.64; 340/5.65**

(58) **Field of Classification Search** **340/5.6, 340/5.61, 5.62, 5.64, 5.65, 5.66, 5.7, 5.23, 340/5.1; 70/63, 168, 277; 109/59, 64; 455/557**

See application file for complete search history.

U.S. PATENT DOCUMENTS

4,677,284 A *	6/1987	Genest	235/487
4,829,296 A	5/1989	Clark et al.	340/825.31
4,926,665 A	5/1990	Stapley et al.	70/277
5,397,884 A	3/1995	Saliga	235/382.5
5,473,318 A *	12/1995	Martel	340/5.23
5,668,876 A *	9/1997	Falk et al.	380/271
5,905,446 A	5/1999	Benore et al.	340/825.34
5,909,183 A *	6/1999	Borgstahl et al.	340/825.22

(Continued)

FOREIGN PATENT DOCUMENTS

DE 196 44 237 4/1998

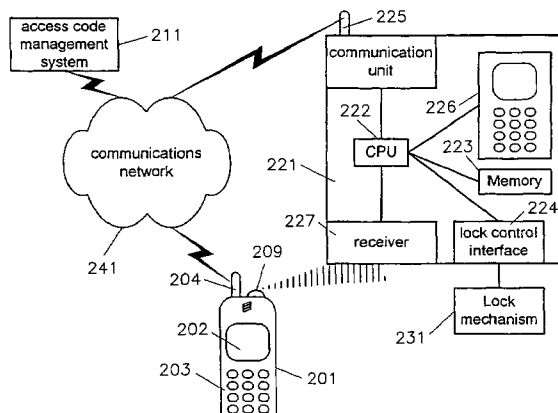
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Primary Examiner—Michael Horabik
Assistant Examiner—Nam Nguyen
(74) *Attorney, Agent, or Firm*—Jacobson Holman PLLC

(57) **ABSTRACT**

An efficient method and a system for controlling access to a location secured by a lock mechanism controlled by a lock control unit, which may provide a high degree of flexibility and a high level of security. The method includes the steps of storing a first access code in the lock control unit, the first access code being indicative of a predetermined access right to the location, and storing a plurality of access codes including a second access code in an electronic key device. Using the electronic key device, access to the location is requested by initiating transmission of the second access code to the lock control unit where the transmitted second access code is compared with the first access code and, if the first access code corresponds to the second access code, operation of the lock mechanism is initiated. The user can edit and rearrange the plurality of access codes to obtain access to a plurality of locations.

38 Claims, 14 Drawing Sheets



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U.S. PATENT DOCUMENTS

5,942,985 A * 8/1999 Chin 340/5.61
5,964,877 A * 10/1999 Victor et al. 713/202
6,038,666 A * 3/2000 Hsu et al. 713/186
6,097,306 A * 8/2000 Leon et al. 340/5.1
6,359,547 B1 * 3/2002 Denison et al. 340/5.73
6,484,260 B1 * 11/2002 Scott et al. 713/186

FOREIGN PATENT DOCUMENTS

DE 197 48 054 5/1999

EP 0 410 024 1/1991
EP 0 810 559 12/1997
FR 2 738 436 3/1997
WO 93/14571 7/1993
WO 94/01963 1/1994
WO 95/25391 9/1995
WO 96/01542 1/1996
WO 97/22772 6/1997
WO 98/25000 6/1998

* cited by examiner

FIG. 1a

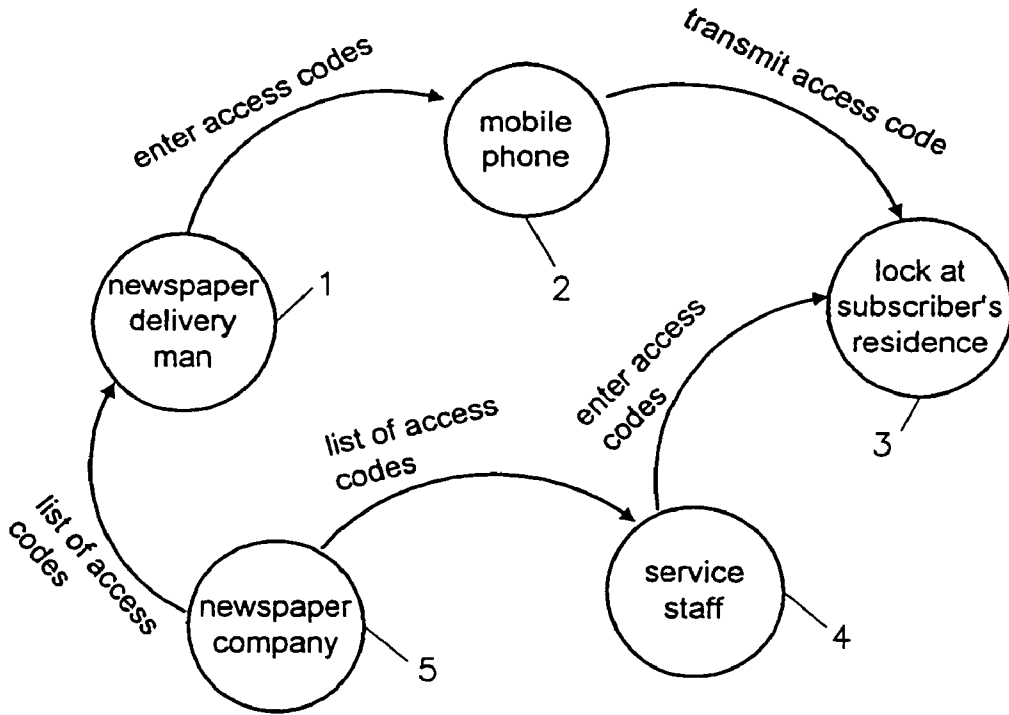


FIG. 1b

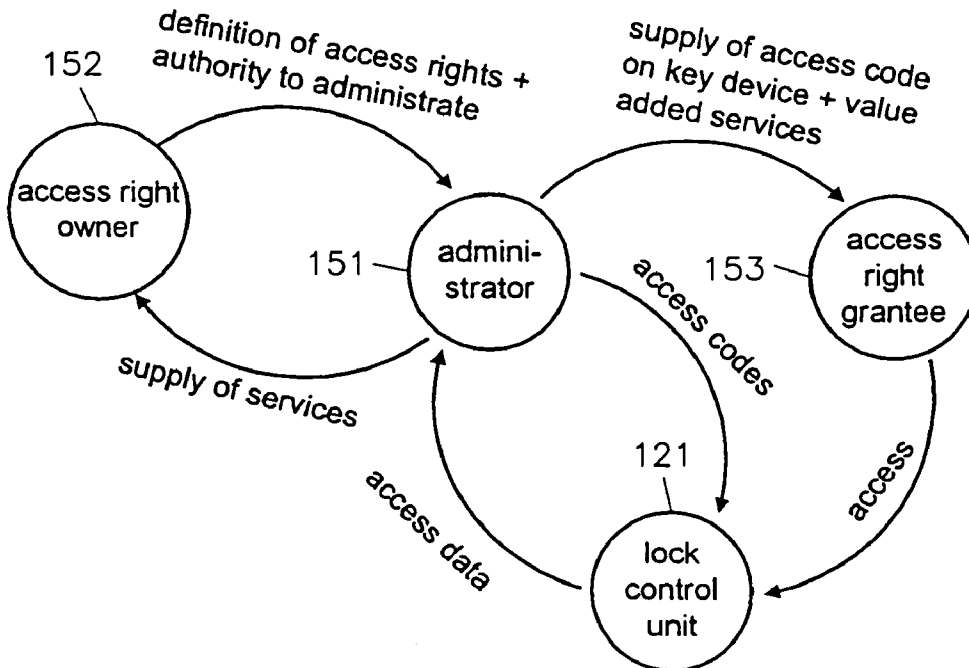


FIG. 2a

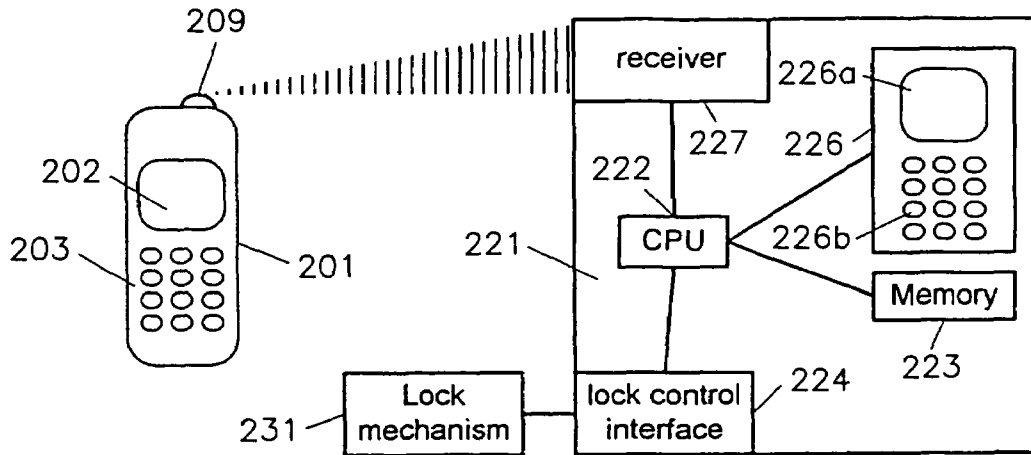


FIG. 2b

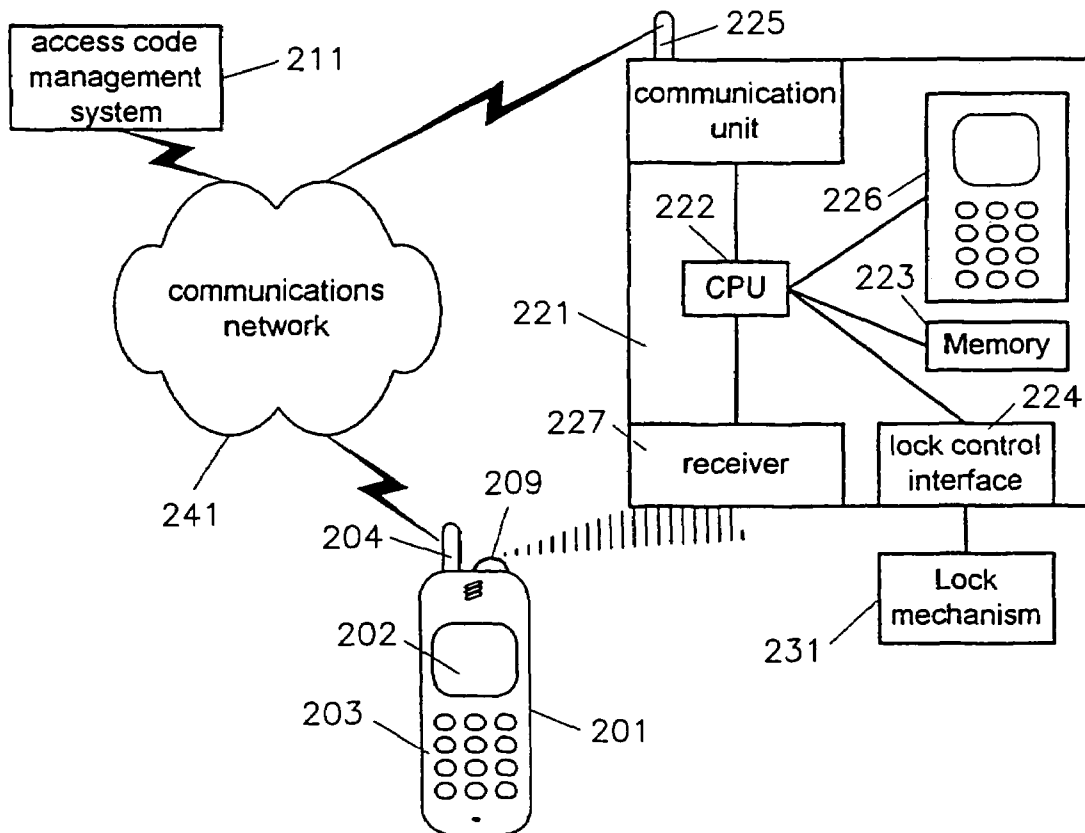


FIG. 2c

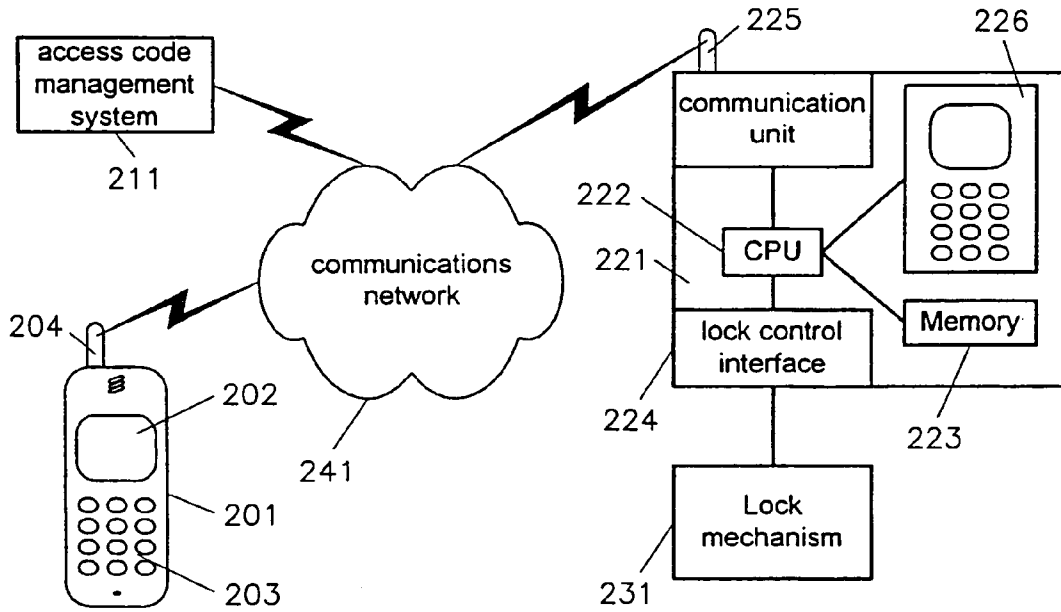
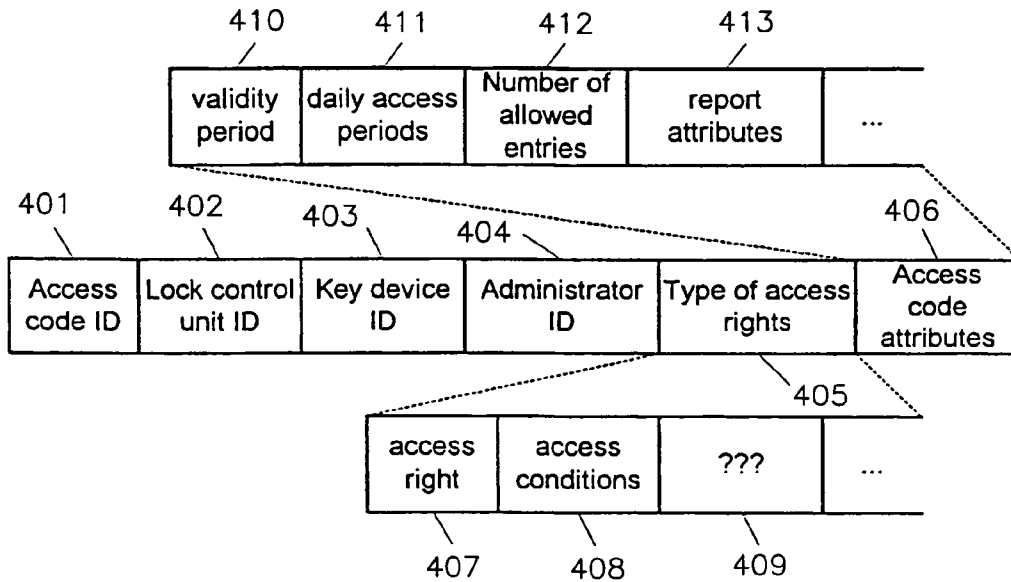


FIG. 4



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