4,367,402

United States Patent [19]

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[54] SYSTEM FOR KEEPING ACCOUNT OF PREDETERMINED HOMOGENEOUS UNITS

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[30] **Foreign Application Priority Data**

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[52] **U.S. Cl.** **235/385**; 235/488; 235/492

[58] **Field of Search** 235/380, 487, 488, 492

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,557,022	10/1949	Wolowitz	235/487
2,634,911	6/1951	Wolowitz	235/487
2,734,954	9/1956	Kidd	235/487
2,792,148	2/1956	Goldenberg	235/381
2,817,824	11/1958	Albright	235/487
2,914,746	11/1959	James	340/825.33
3,022,381	2/1962	Pferd	235/381
3,431,406	3/1969	Anderson et al.	235/153
3,504,343	3/1977	Pitlow	235/441
3,559,175	10/1967	Pomeroy	346/825.33
3,609,300	9/1971	Halpern	235/381
3,617,706	11/1971	Oberhart	235/487
3,641,499	2/1972	Housman	346/825.33
3,702,464	11/1972	Castrucci	340/173 SP
3,748,441	7/1973	Halpern	235/381
3,816,711	6/1974	Bliss	235/488
3,845,277	10/1974	Voss et al.	235/379
3,868,057	2/1975	Chavez	235/488
3,870,866	3/1975	Halpern	235/419
3,906,460	9/1975	Halpern	340/825.33
3,908,894	9/1975	Hatanaka et al.	235/379
3,919,528	11/1975	Cooper et al.	235/379
3,934,122	1/1976	Riccitelli	340/825.33
3,935,933	2/1976	Tanaka et al.	194/4 R
3,941,977	3/1976	Voss et al.	235/379
3,971,916	7/1976	Moreno	235/385 X
4,001,550	1/1977	Schatz	235/487
4,004,133	1/1977	Hannan	235/485
4,007,355	2/1977	Moreno	235/385 X
4,020,326	4/1977	Coulthurst	235/487
4,091,448	5/1978	Clamsing	364/200
4,092,524	5/1978	Moreno	236/419
4,094,462	6/1978	Moschner	235/380
4,102,493	7/1978	Moreno	235/419
4,105,156	8/1978	Dethloff	235/441
4,114,027	9/1978	Slater et al.	235/419

FOREIGN PATENT DOCUMENTS

2266222	10/1975	France	235/487
2304989	10/1976	France	235/487
2304992	10/1976	France	235/487

OTHER PUBLICATIONS

"New Encoding Methods", Control Engineering, Oct. 1979, pp. 88–94.

"Credit Card Bearing Mechanically Recorded Data", RCA Technical Note #956, Mar. 15, 1974.

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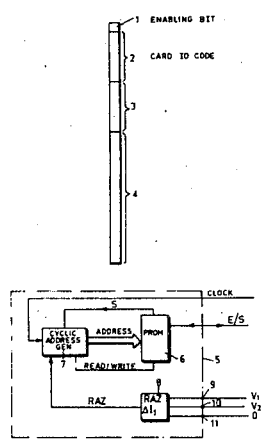
[57] **ABSTRACT**

Each card of a set of credit cards includes a memory having plural memory fields. The memory of each card in a set includes a first unalterable multi-bit field indicative of an identification of an external means with which the card can be used, as well as a second unalterable mutli-bit field indicative of operations that can be performed with the card on the external means and an alterable multi-bit field indicative of the number of credit units available to a card holder. Each card includes circuits for controlling the memory, and means for temporarily coupling the memory and circuits to the external means. Each of the first and second unalterable bit fields includes n bits. A change from one bit state to the other bit state of a predetermined number, m, of bits in the unalterable fields of each card in the set is irreversible after imprinting, where m is equal to or less than n.

3 Claims, 19 Drawing Figures