



# United States Patent [19]

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Kugell et al.

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- [54] **MULTI-RING TELEPHONE METHOD AND SYSTEM**
- [75] Inventors: **Stanley Kugell**, Newton Highlands;  
**David Silver**, Cambridge, both of Mass.
- [73] Assignee: **Pilgrim Telephone, Inc.**, Cambridge,  
Mass.

5,483,586	1/1996	Sussman .....	379/201
5,483,587	1/1996	Hogan et al. ....	379/202
5,502,762	3/1996	Andrew et al. ....	379/202
5,521,716	5/1996	Itoh .....	358/402
5,546,449	8/1996	Hogan et al. ....	379/202
5,559,876	9/1996	Alperovich .....	379/205
5,568,546	10/1996	Marutiak .....	379/355
5,590,189	12/1996	Turnbull et al. ....	379/356
5,631,904	5/1997	Fitser et al. ....	379/205

- [21] Appl. No.: **590,110**
- [22] Filed: **Jan. 19, 1996**
- [51] Int. Cl.<sup>6</sup> ..... **H04M 3/46; H04M 3/56**
- [52] U.S. Cl. .... **379/211; 379/188; 379/205;**  
**370/261; 370/270**
- [58] **Field of Search** ..... **379/201, 202,**  
**379/203, 204, 205, 206, 211, 212, 93, 95,**  
**188, 199, 37, 354, 355, 356; 370/259, 260,**  
**261, 262, 270, 280; 395/2.4; 340/825.44,**  
**825.45, 825.47**

### OTHER PUBLICATIONS

"Mechanism to Automate Updating Obsolete Telephone Numbers," pp. 115-116, vol. 37, No. 04A, IBM Technical Disclosure Bulletin, Apr. 1994.

*Primary Examiner*—Krista Zele  
*Assistant Examiner*—Scott Wolinsky  
*Attorney, Agent, or Firm*—Strung Kramer Schaefer & Briscoe

### ABSTRACT

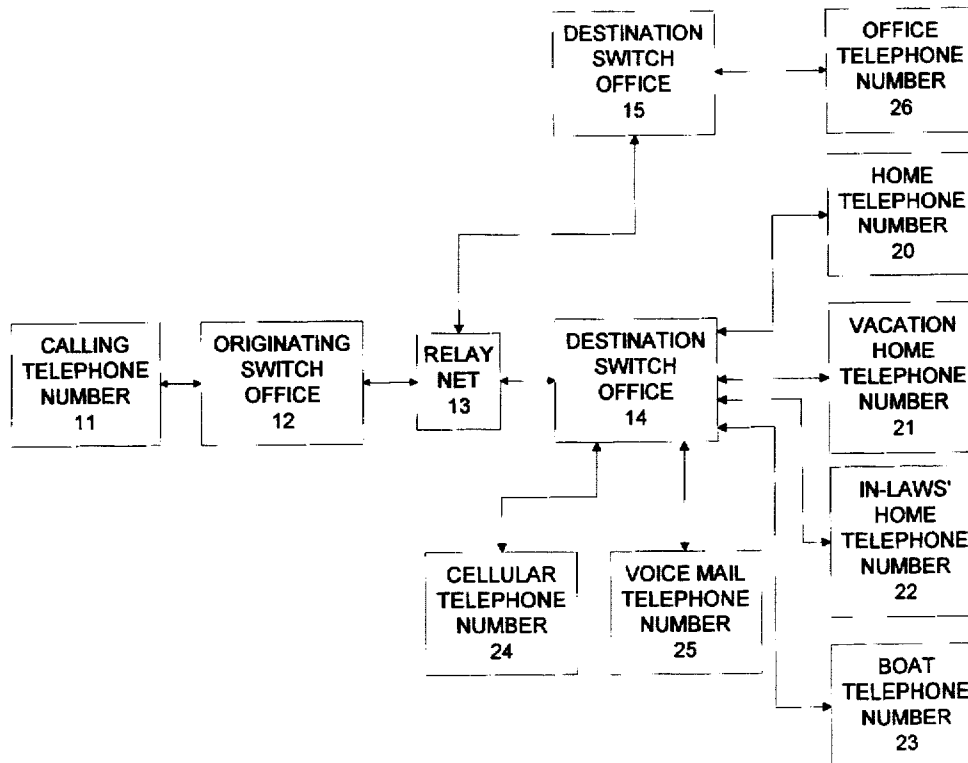
[57] A method and system of providing telephone service comprises associating a list of telephone numbers with a representative telephone number. A call to the representative telephone number is detected and a plurality of telephone numbers on the list are simultaneously signalled. Thereafter, signalling is terminated at at least one of the plurality of telephone numbers thereby allowing a connection to be established with one or more parties at telephone numbers among the plurality of telephone numbers. Each telephone number on the list may be a representative number which is associated with another list of telephone numbers.

### [56] References Cited

#### U.S. PATENT DOCUMENTS

4,803,717	2/1989	Marui .....	379/67
5,043,718	8/1991	Shimura .....	340/825.44
5,103,448	4/1992	Barnes et al. ....	370/280
5,166,972	11/1992	Smith .....	379/37
5,206,901	4/1993	Hadlow et al. ....	379/201
5,259,026	11/1993	Johnson .....	379/207
5,329,578	7/1994	Brennan et al. ....	379/201
5,430,791	7/1995	Feit et al. ....	379/211
5,454,032	9/1995	Pinard et al. ....	379/167

**47 Claims, 9 Drawing Sheets**



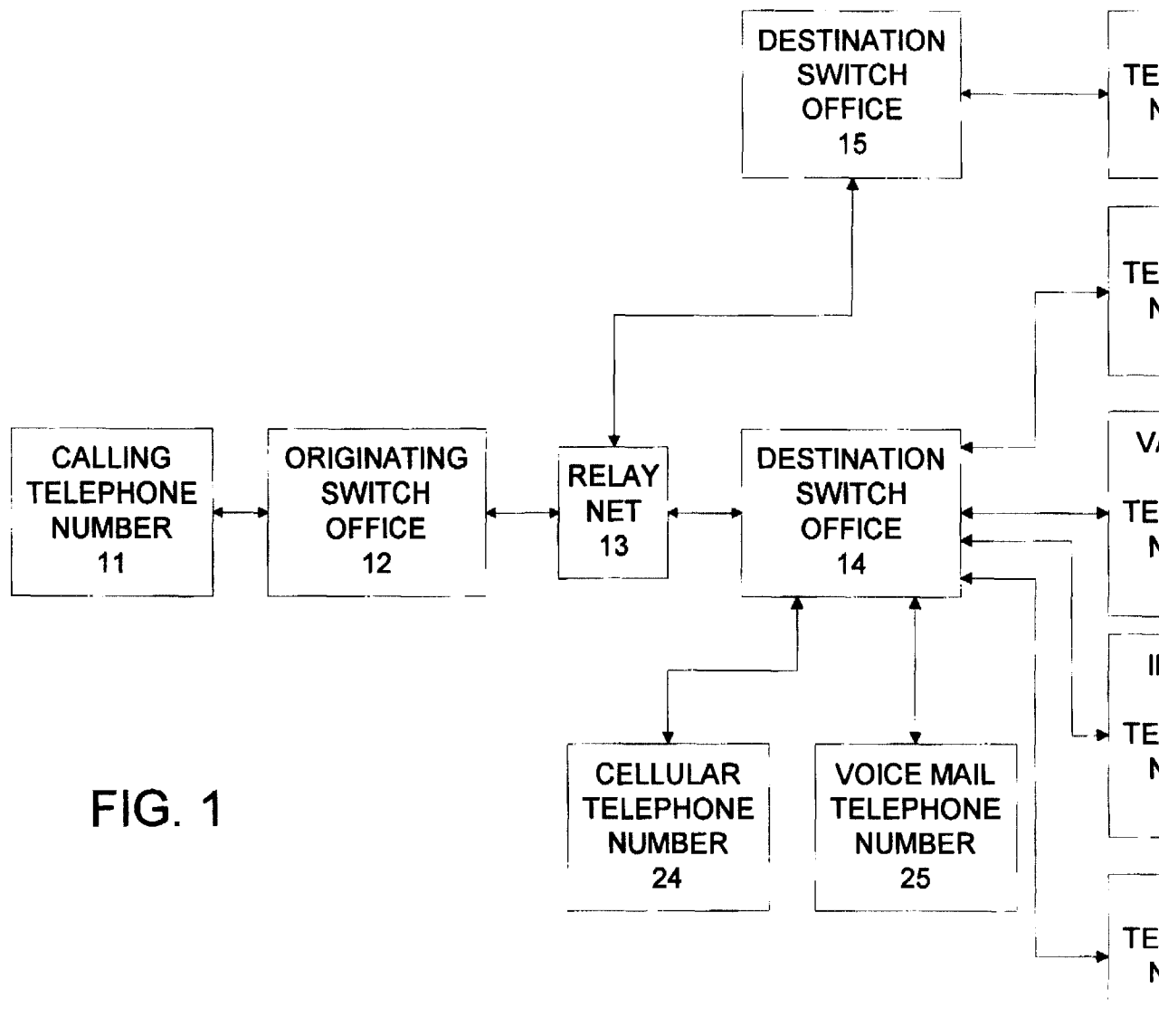


FIG. 1

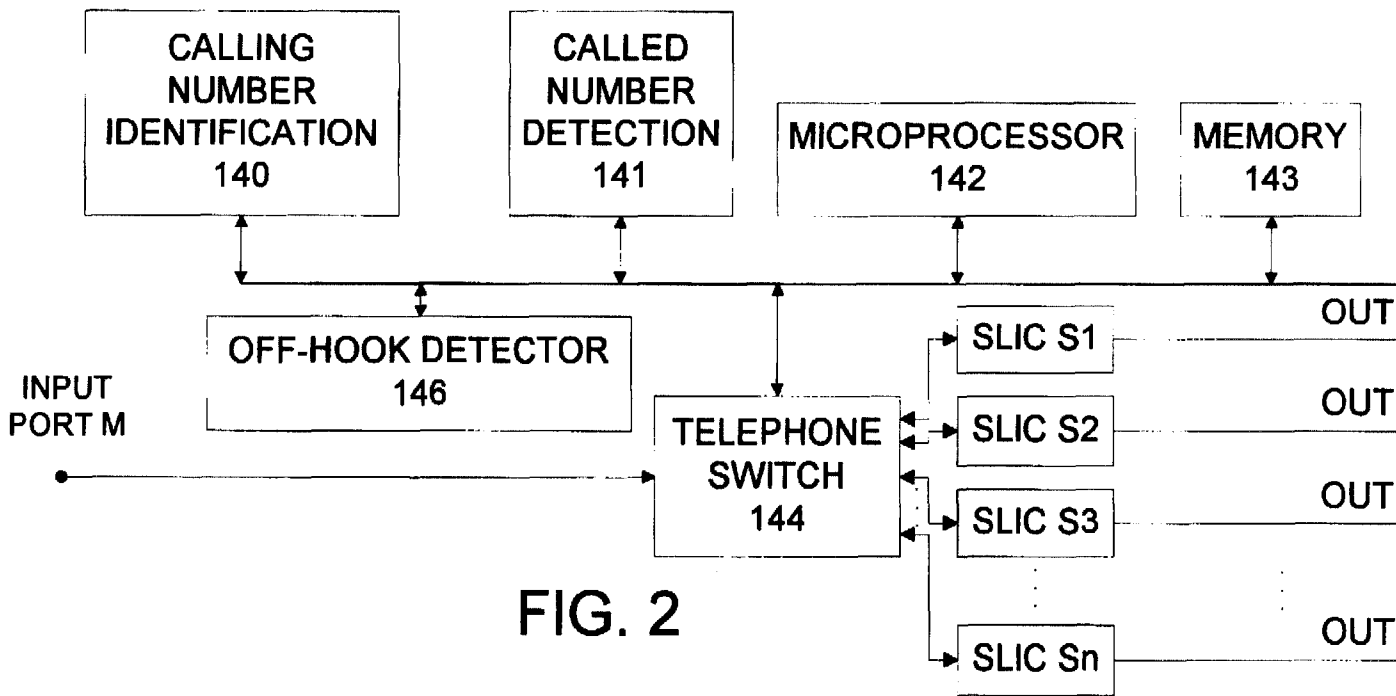


FIG. 2

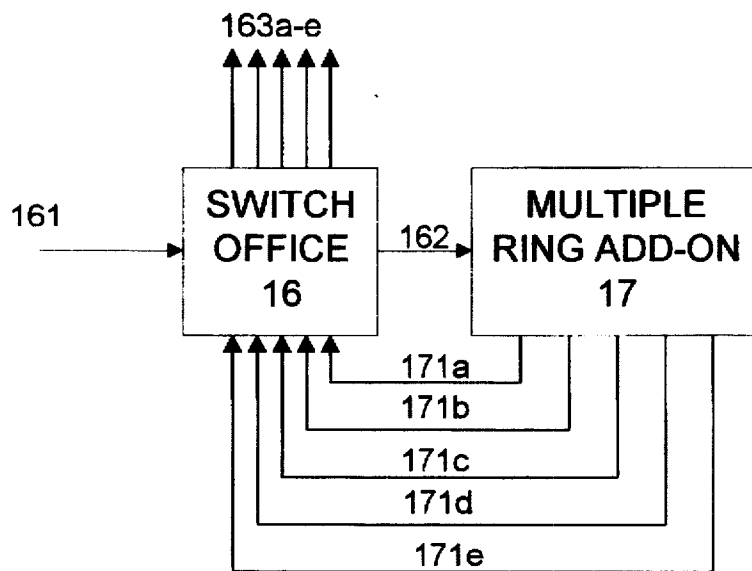


FIG. 2A

REPRESENTATIVE NUMBER: 800-555-1234		SIGNALLING TERMINATION REQUIREMENTS: 1 OFF		
LIST OF ASSOCIATED NUMBERS	TIME PARAMETERS	ANI PARAMETERS	SIGNALLING DELAY PARAMETERS	VERIFICATION PARAMETERS
HOME TEL. NUMBER 20	6PM-12AM ONLY	TABLE A (EXCLUDED NOS.)	5 RINGS ONLY	PIN NO
VACATION HOME TEL. NUMBER 21	9AM-5PM, M-F ONLY	TABLE A (EXCLUDED NOS.)	5 RINGS ONLY	PIN NO
IN-LAWS' HOME TEL. NUMBER 22	6 PM-10 PM, AUGUST ONLY	TABLE B (EXCLUDED NOS.)	START AFTER 6 RINGS	VOICE C
BOAT TEL. NUMBER 23	SAT. & SUN. ONLY	TABLE C (PERMITTED NOS.)	NONE	PIN NO
CELLULAR TEL. NUMBER 24	ALL TIMES	NO EXCLUSIONS	NONE	NON
VOICE MAIL TEL. NUMBER 25	JULY 15 - JULY 28 ONLY	NO EXCLUSIONS	START AFTER 20 RINGS	NON

FIG. 3

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