



United States Patent [19]

[11] Patent Number: **5,802,160**

Kugell et al.

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

- [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.⁶ **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

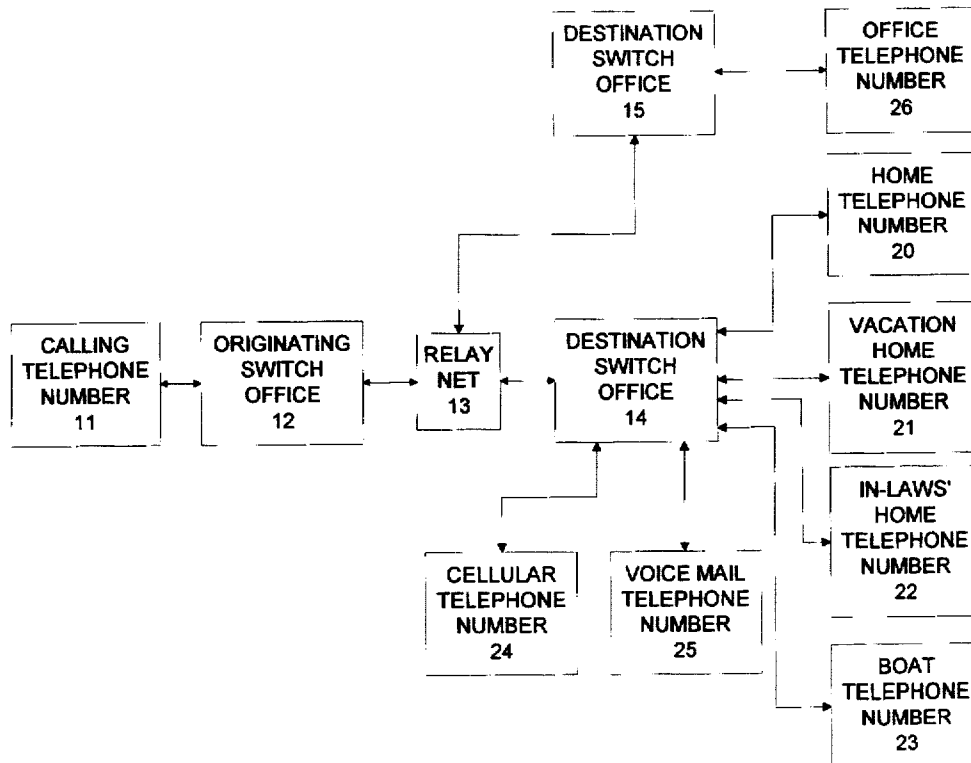
[57] A method and system of providing telephone service comprises associating a list of telephone numbers with a representative telephone number. A call to the representative telephone number is detected and a plurality of telephone numbers on the list are simultaneously signalled. Thereafter, signalling 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



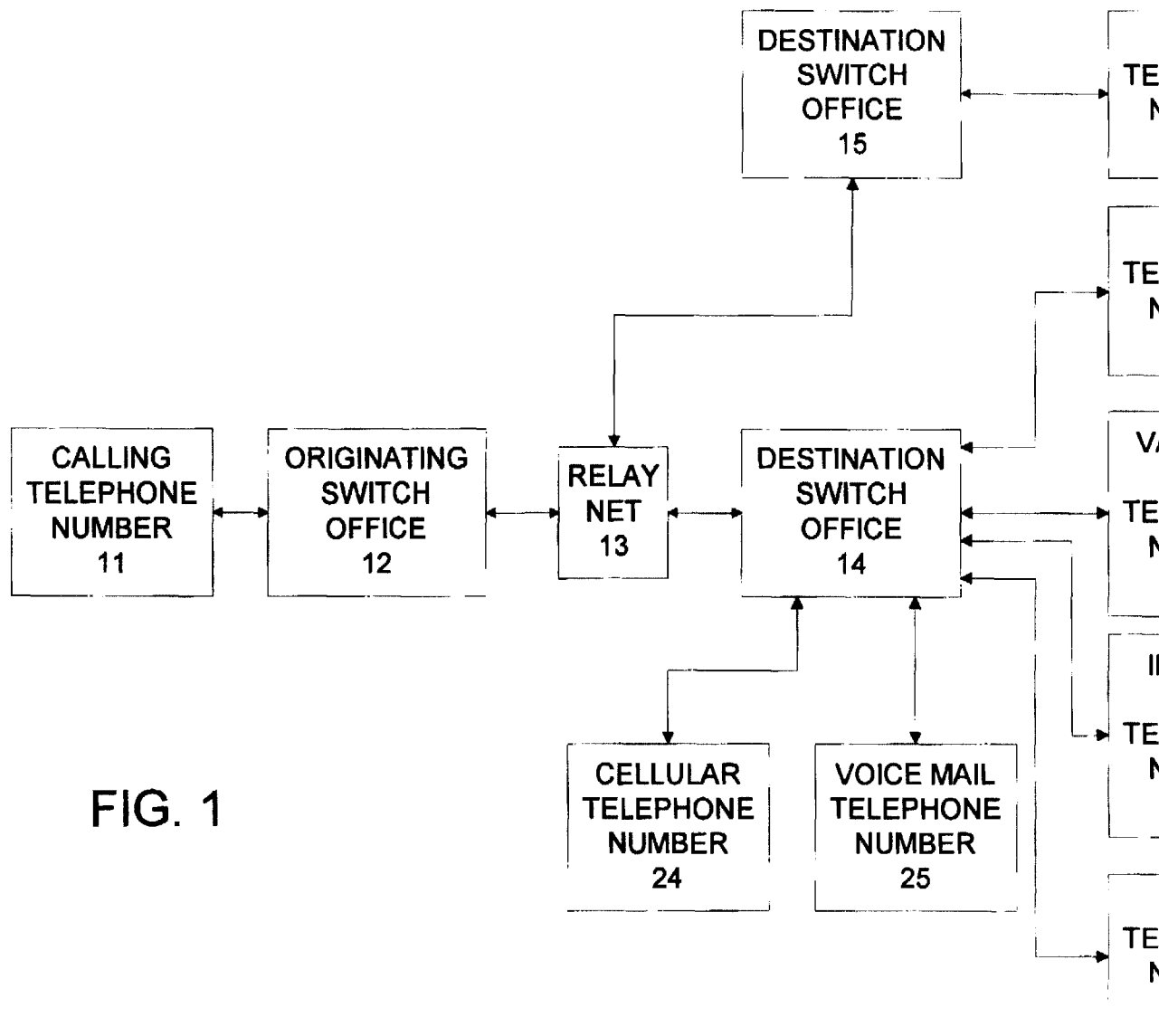


FIG. 1

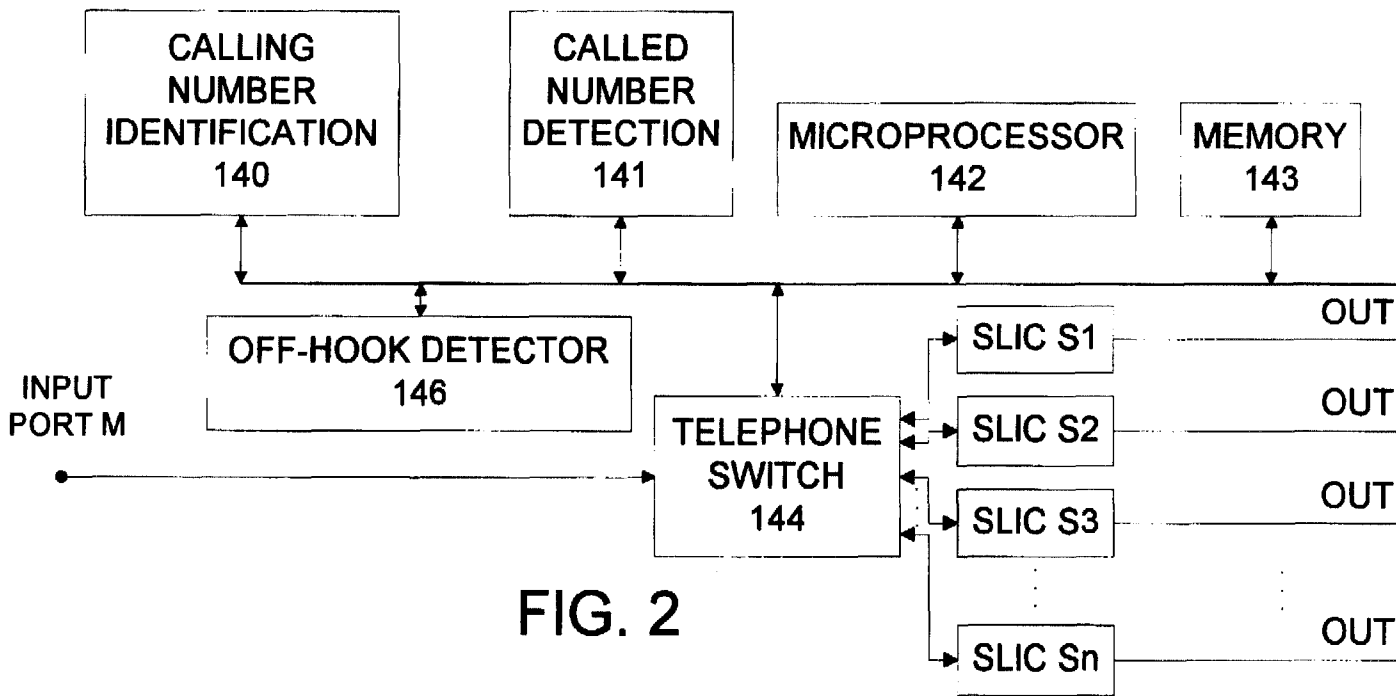


FIG. 2

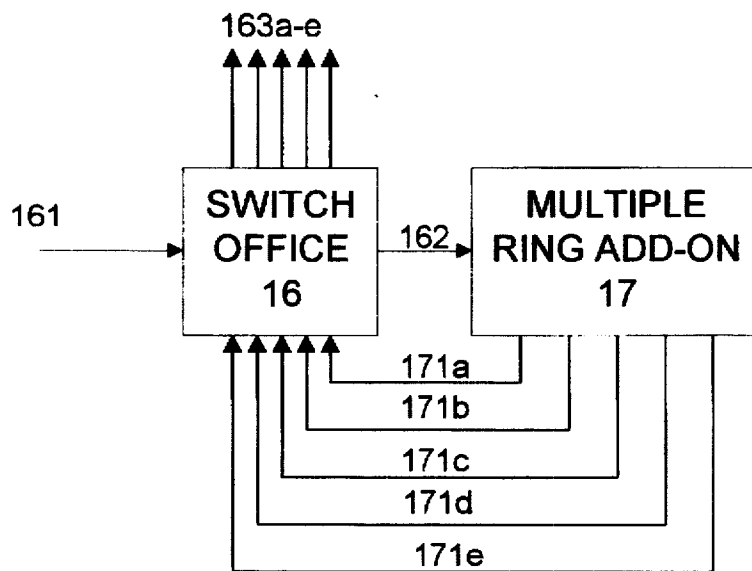


FIG. 2A

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

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.