

United States Patent [19]

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Ferrel et al.

[45] Date of Patent: ***May 25, 1999**

[54] **INFORMATION RETRIEVAL SYSTEM IN AN ON-LINE NETWORK INCLUDING SEPARATE CONTENT AND LAYOUT OF PUBLISHED TITLES**

5,491,820	2/1996	Belove et al.	395/600
5,493,728	2/1996	Soltan et al.	395/250
5,513,126	4/1996	Harkins et al.	364/514 A
5,546,577	8/1996	Marlin et al.	395/600

[75] Inventors: **Patrick J. Ferrel**, Seattle; **Randy Kerr**, Redmond; **Krishna Nareddy**, Bellevue; **Krishna Uppala**, Redmond, all of Wash.

FOREIGN PATENT DOCUMENTS

0 622 743 A2	11/1994	European Pat. Off.	.
0 749 081 A1	12/1996	European Pat. Off.	.

[73] Assignee: **Microsoft Corporation**, Redmond, Wash.

OTHER PUBLICATIONS

European Search Report dated Oct. 13, 1998, corresponding to EPO Application No. 96118399.3-2201.

[*] Notice: This patent issued on a continued prosecution application filed under 37 CFR 1.53(d), and is subject to the twenty year patent term provisions of 35 U.S.C. 154(a)(2).

(List continued on next page.)

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[21] Appl. No.: **08/560,281**

[57] ABSTRACT

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A information retrieval system wherein design and content are separated. Within a section of a title, a designer can layout pages with controls that define areas for content to be inserted into the pages. Two commonly used controls in the system are a static story control, wherein a preselected story is statically placed on a page in the area defined by the control, and a dynamic story control, wherein the designer defines search objects to retrieve stories. An information retrieval (IR) server indexes and searches stories in titles. Indexing takes place when a title is released to the network by a publisher workstation. The IR server interrelates title, section and story objects by their globally unique identifiers and creates a routing table which is used to locate objects across multiple database partitions. The IR search service is requested in two different ways at customer runtime. The first way is the resolution of the search objects to retrieve matching stories. The retrieved stories are concatenated and poured into the area defined by the dynamic control when the title is viewed. In the second way, the IR search service is requested when a search is initiated by a customer using a "find" dialog to search across all stories in one or more titles, both dynamic and static.

Related U.S. Application Data

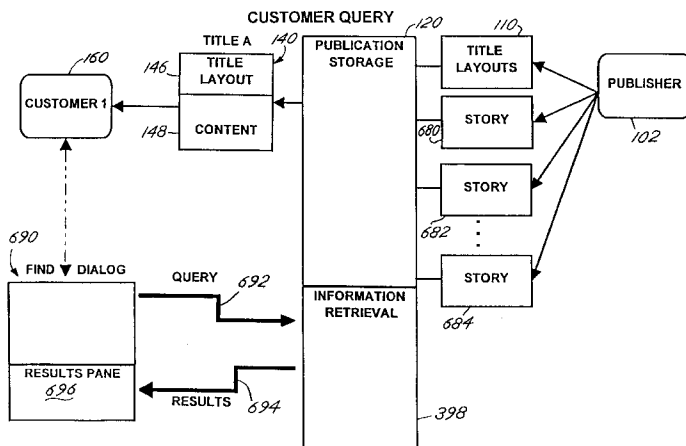
- [63] Continuation of application No. 08/503,343, Jul. 17, 1995.
- [51] Int. Cl.⁶ **G06F 17/30**
- [52] U.S. Cl. **707/3; 707/103; 707/104; 707/500; 707/517; 707/525; 707/522; 707/526**
- [58] Field of Search 395/600, 614, 395/615, 610; 707/522, 104, 103, 3, 500, 517, 525, 526; 358/403

[56] References Cited

U.S. PATENT DOCUMENTS

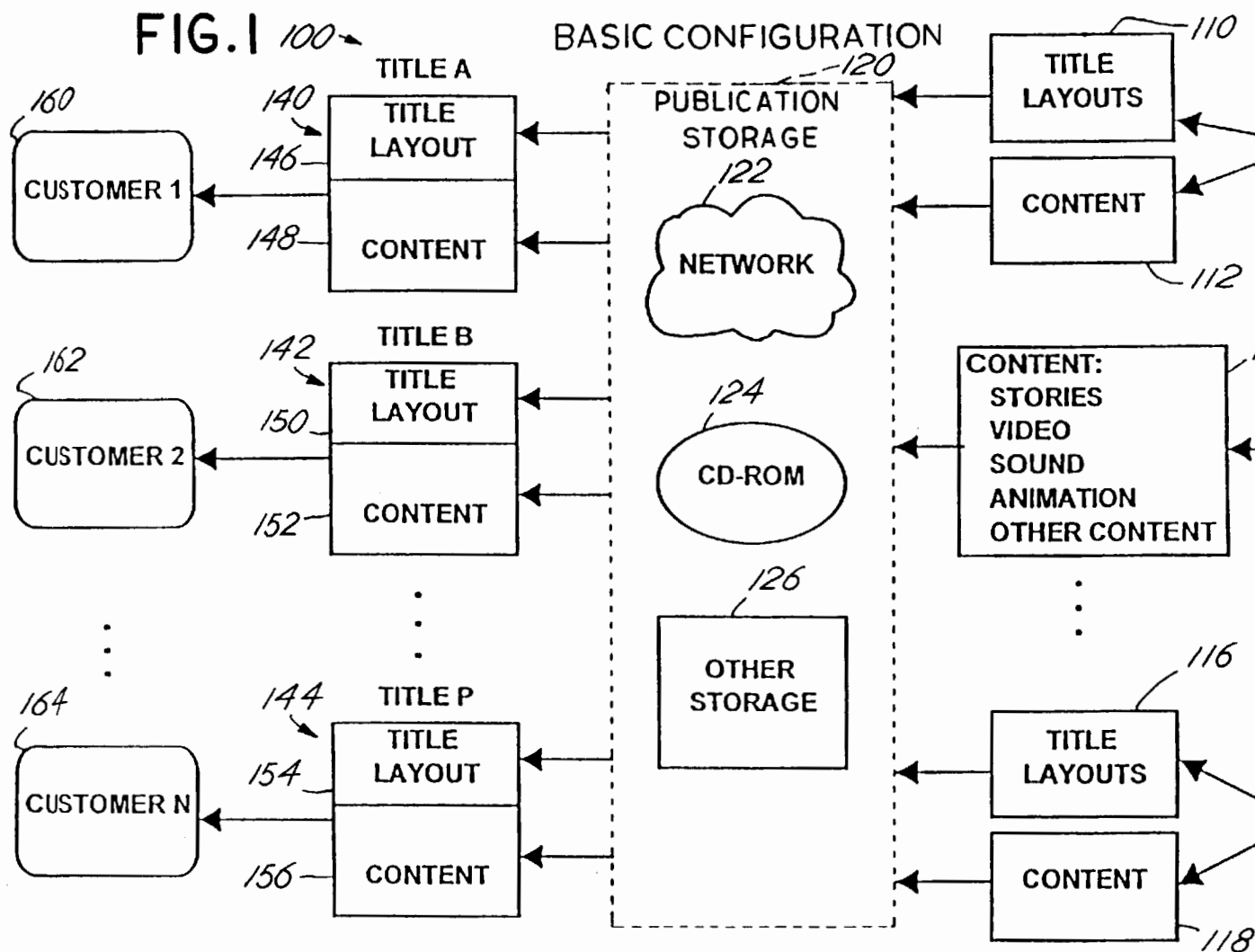
3,670,310	6/1972	Bharwani et al.	340/172.5
4,255,796	3/1981	Gabbe et al.	364/900
4,642,762	2/1987	Fisanick	364/300
4,754,326	6/1988	Kram et al.	364/900
4,775,956	10/1988	Kaji et al.	364/900
4,845,659	7/1989	Gifford	395/563
4,939,689	7/1990	Davis et al.	364/900
5,197,005	3/1993	Shwartz et al.	364/419
5,251,316	10/1993	Anick et al.	395/600
5,491,818	2/1996	Malatesta et al.	395/600

65 Claims, 24 Drawing Sheets



OTHER PUBLICATIONS

- "Structured Documents" edited by J. André, R. Furuta & V. Quint, *Cambridge series on electronic publishing*; 2, First published 1989.
- Williams, J.H. "An automatic Indexing On-Line Text Retrieval System" U.S. Government/NTIS, Jan. 1969.
- Cove, J.F.; Walsh, B.C.; "ONline text retrieval via browsing" *Information Processing & Management*, Jan. 1988.
- Macleod, I.A.; "A query Language for retrieving information from hirachic text structures" *IEE/INSPEC*, Jan. 1991.
- Andre et al. "Structured Documents", Cambridge University Press, Jan. 1989.
- C Thanos, "Multimedia Office Filing" Elsevier Science Publishing Company Inc, Jan. 1990.
- Paul Nora "The Times they are a changin'":The Los Angeles Times on the Web)(World Wide Web) Searcher, V4, n6 p38(10), Jun. 1996.
- David K, Gifford "Polychannel systems for mass digital communication" *Communications of the ACM*, v33, n2, p71-83, Feb. 1992.
- Hermann et al. "Retrieval of Document Images Using Layout Knowledge" *IEE/IN SPEC* pp. 537-540, Jul. 1993.
- Salton, G "Information Storage and Retrieval" U.S. Government/NTIS, Jan. 1969.
- Lee, Lydia, "Alert New Media news & products—Search Engines: Keys to the Web Kingdom," *New Media*, Aug. 1995, p. 22.
- Rupley, Sebastian, "Trends: Trends & Technology Shaping the Personal Computer Market—Taming the Text Tiger," *PC Magazine*, Jun. 13, 1995, p. 29.
- Rupley, Sebastian, "Trends: Folio's On-Line Business Library," *PC Magazine*, May 16, 1995, p. 32.
- Weiss, Aaron, "Hop, Skip, and Jump: Navigating the World-Wide Web," *Internet World*, Apr. 1995, pp. 41-44.
- December, John, "New Spiders Roam the Web," *Computer-Mediated Communication Magazine*, vol. 1, No. 5, Sep. 1, 1994, 3 pages.



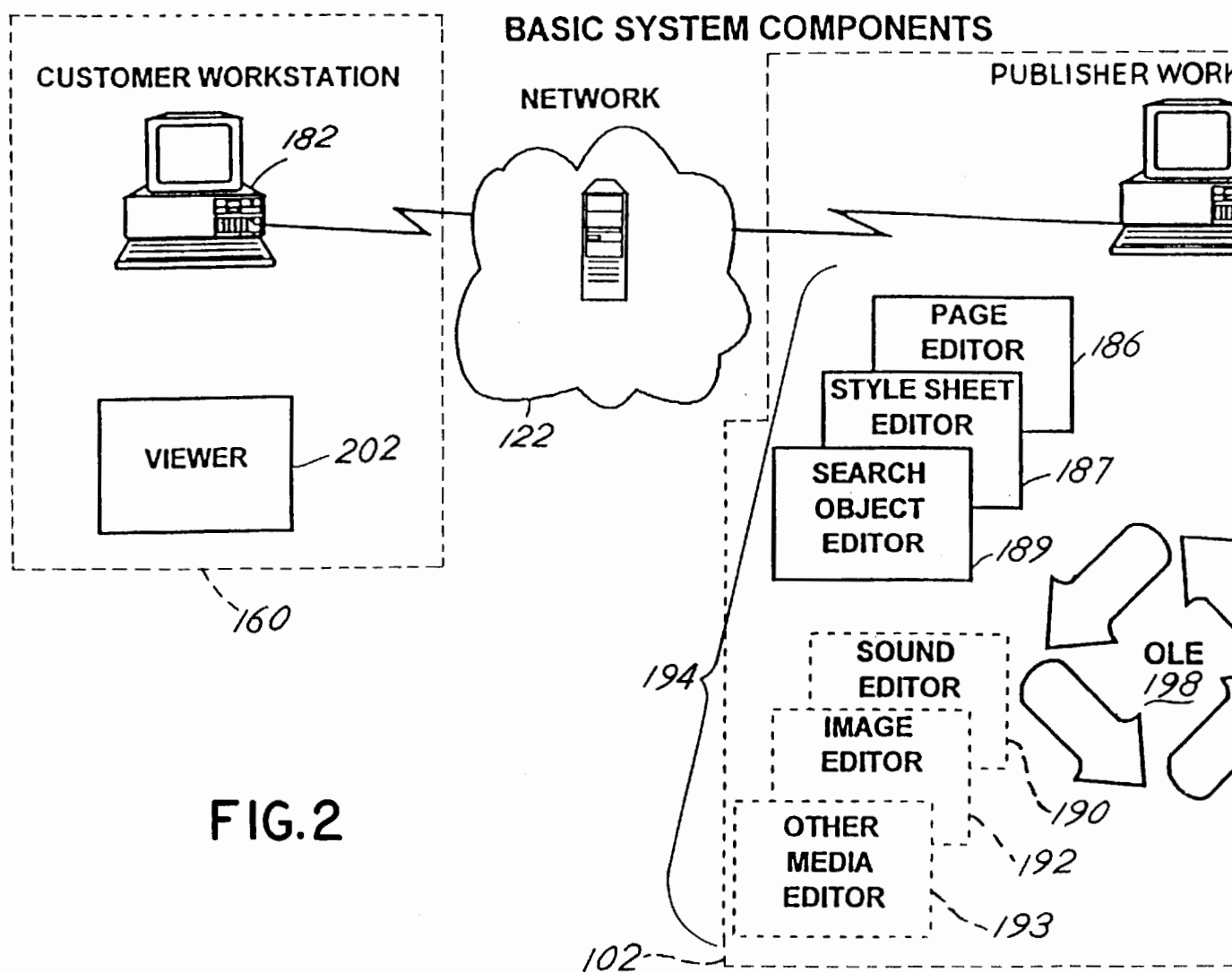


FIG. 2

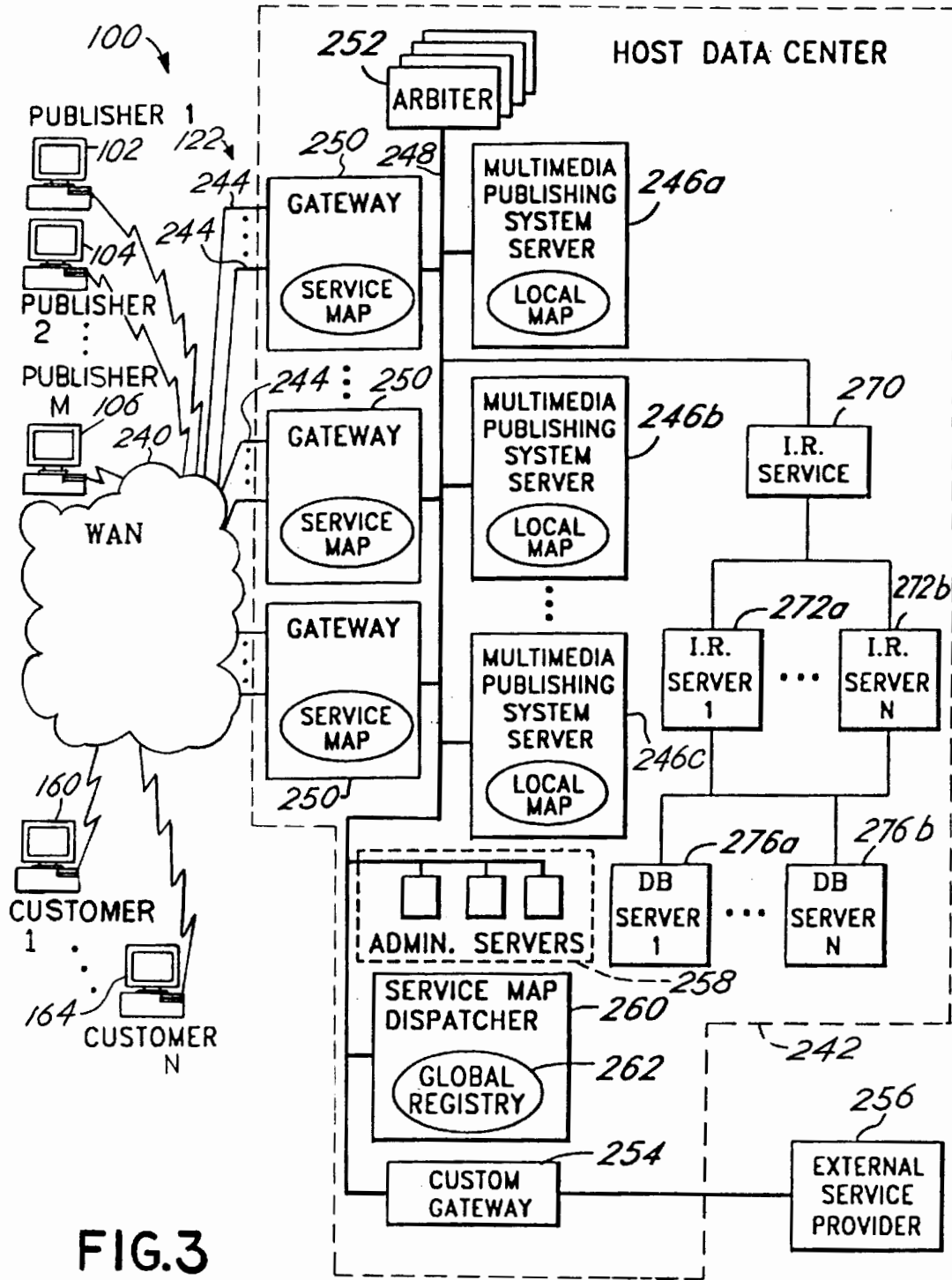


FIG.3

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