



US006073036A

**United States Patent** [19]  
**Heikkinen et al.**

[11] **Patent Number:** **6,073,036**  
[45] **Date of Patent:** **\*Jun. 6, 2000**

- [54] **MOBILE STATION WITH TOUCH INPUT HAVING AUTOMATIC SYMBOL MAGNIFICATION FUNCTION**
- [75] Inventors: **Teuvo Heikkinen**, Oulu; **Petri Piippo**, Karkkila; **Harri Wikberg**, Helsinki; **Miika Silfverberg**, Helsinki; **Panu Korhonen**, Helsinki; **Harri Kiljander**, Espoo, all of Finland
- [73] Assignee: **Nokia Mobile Phones Limited**, Espoo, Finland

4,790,028	12/1988	Ramage	382/47
5,016,002	5/1991	Levanto	340/756
5,119,079	6/1992	Hube et al.	340/712
5,201,034	4/1993	Matsuura et al.	395/155
5,266,949	11/1993	Rossi	341/22
5,335,276	8/1994	Thompson et al.	455/558
5,341,466	8/1994	Perlin et al.	395/139
5,408,060	4/1995	Muurinen	200/314
5,422,656	6/1995	Allard et al.	345/173
5,465,401	11/1995	Thompson	455/566
5,568,536	10/1996	Tiller et al.	379/58
5,615,384	3/1997	Allard et al.	395/800
5,815,142	9/1998	Allard et al.	345/173

[\*] 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).

*Primary Examiner*—Curtis A. Kuntz  
*Assistant Examiner*—Binh K. Tieu  
*Attorney, Agent, or Firm*—Ohlandt, Greeley, Ruggiero & Perle, L.L.P.

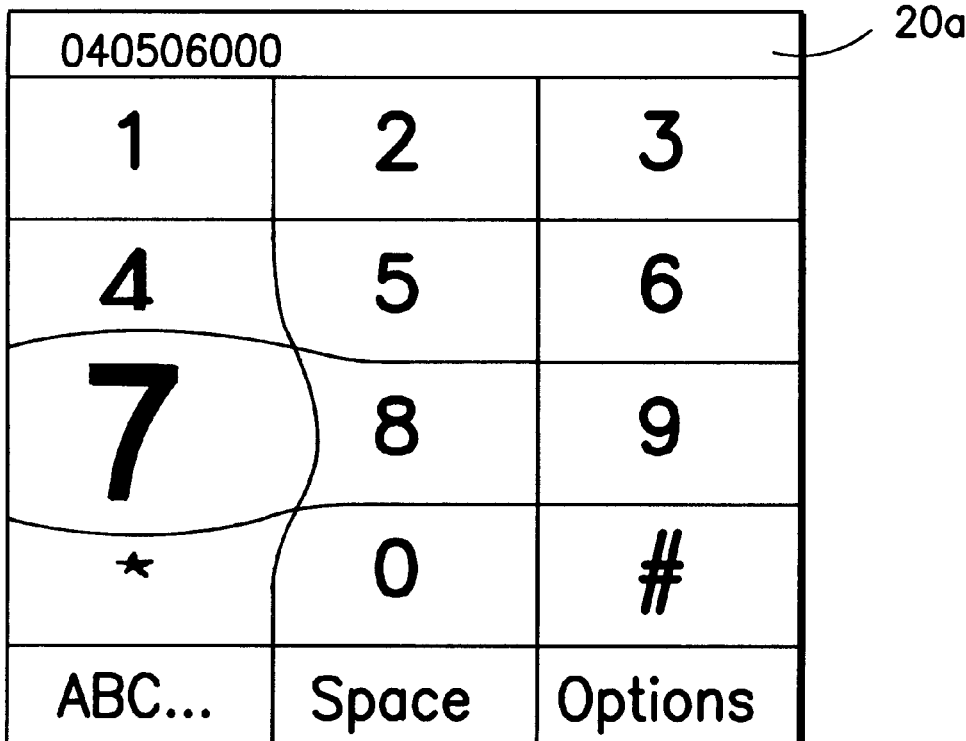
- [21] Appl. No.: **08/847,796**
- [22] Filed: **Apr. 28, 1997**
- [51] **Int. Cl.<sup>7</sup>** ..... **H04B 1/38**
- [52] **U.S. Cl.** ..... **455/575; 455/566; 379/354**
- [58] **Field of Search** ..... **455/575, 425, 455/566, 567; 345/63, 147, 173, 121, 130, 156; 379/93.19, 93.23, 354; 382/298, 451**

[57] **ABSTRACT**

A wireless user station (10), such as a cellular telephone, is provided with a touch sensitive input device, such as a touch-sensitive display (20) or a touchpad (23). A display device displays a plurality of symbols. A first location of a tactile input is detected and displayed symbols in the vicinity of the first location of the tactile input are magnified to occupy a larger display area. Subsequently, a second location of the tactile input is detected, thereby identifying a new position of the user's fingertip. After the second location on the touch sensitive screen remains constant, or after the user lifts the fingertip, the second location of the tactile input is reported and associated with the selected symbol.

- [56] **References Cited**  
U.S. PATENT DOCUMENTS  
4,755,811 7/1988 Slavin et al. .... 340/731

**19 Claims, 8 Drawing Sheets**



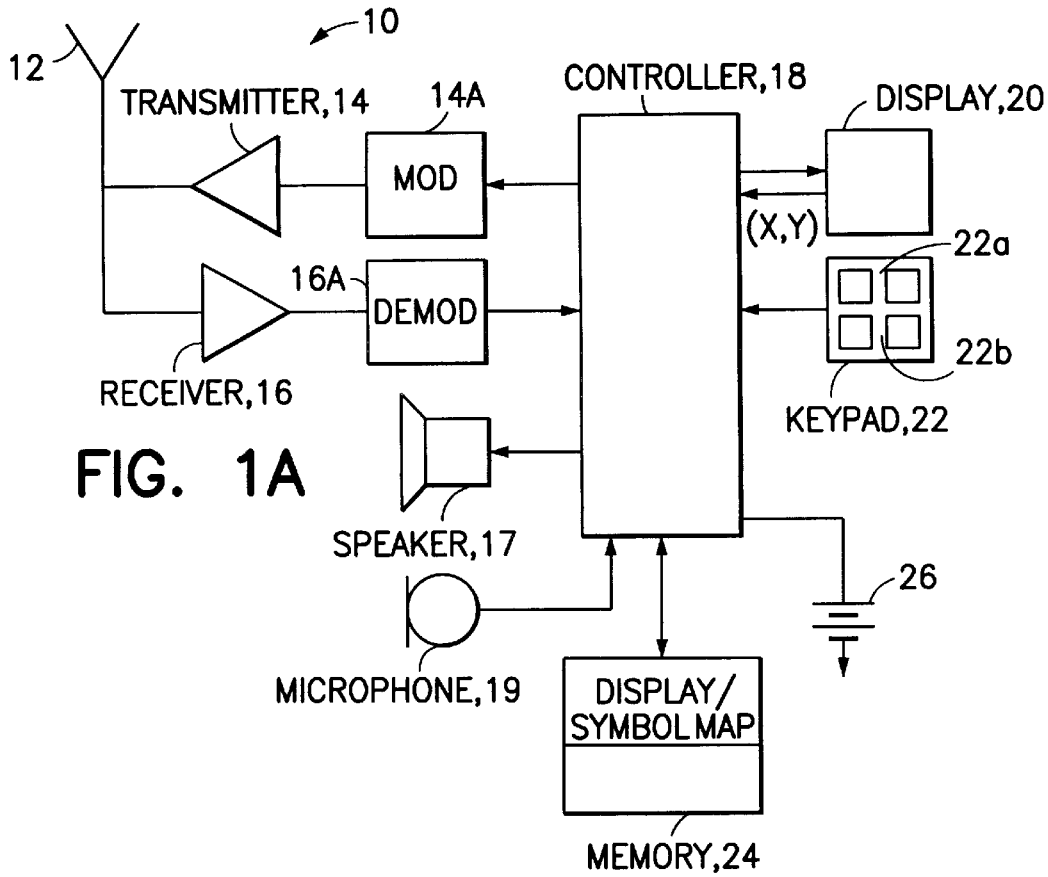


FIG. 1A

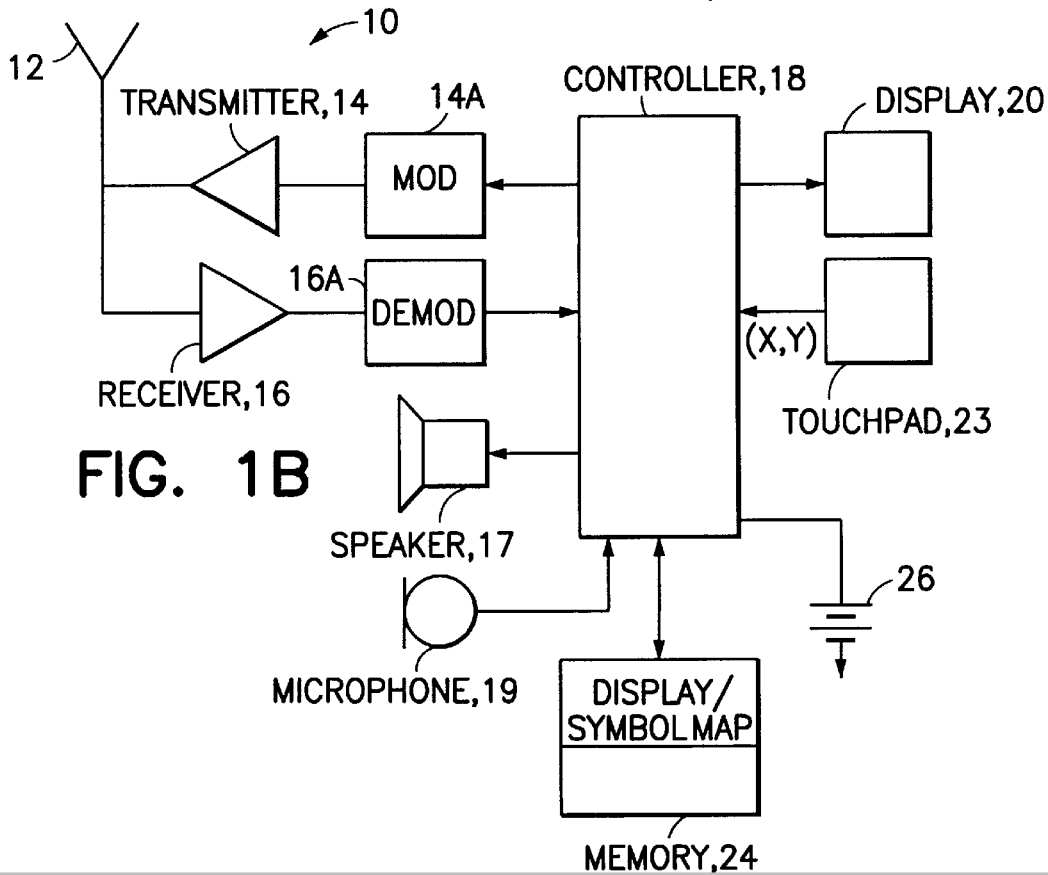


FIG. 1B

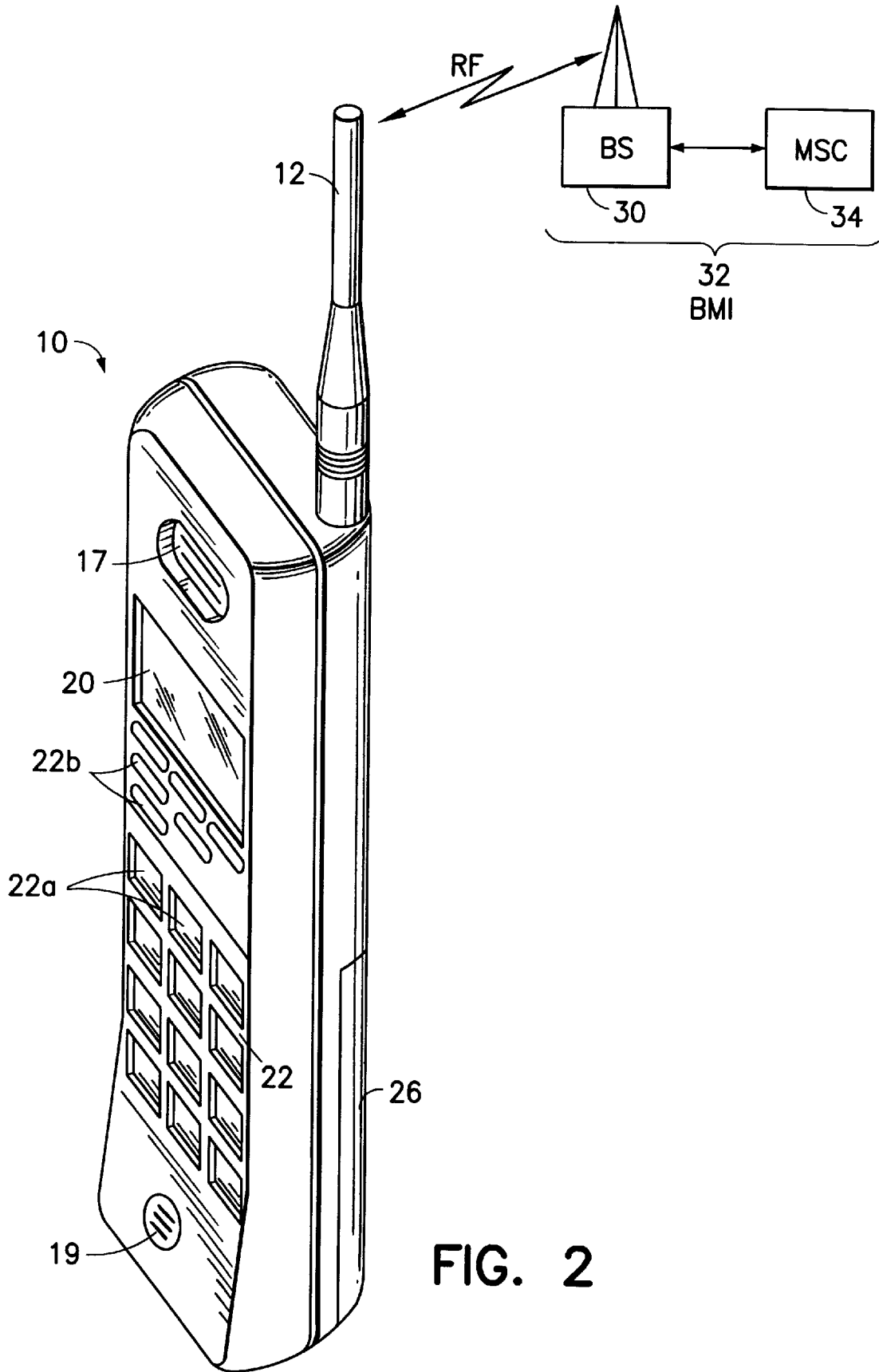


FIG. 2

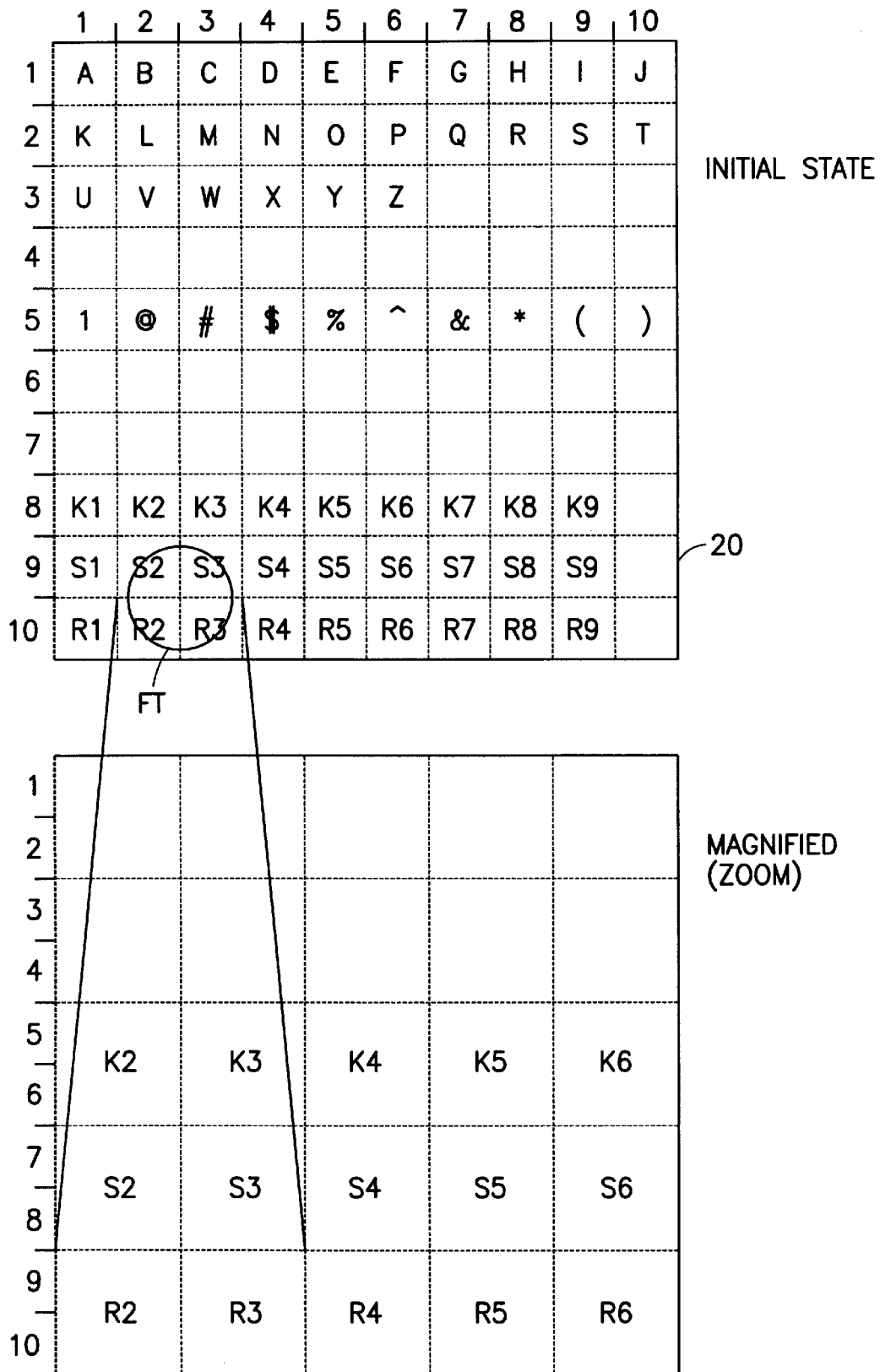


FIG. 3

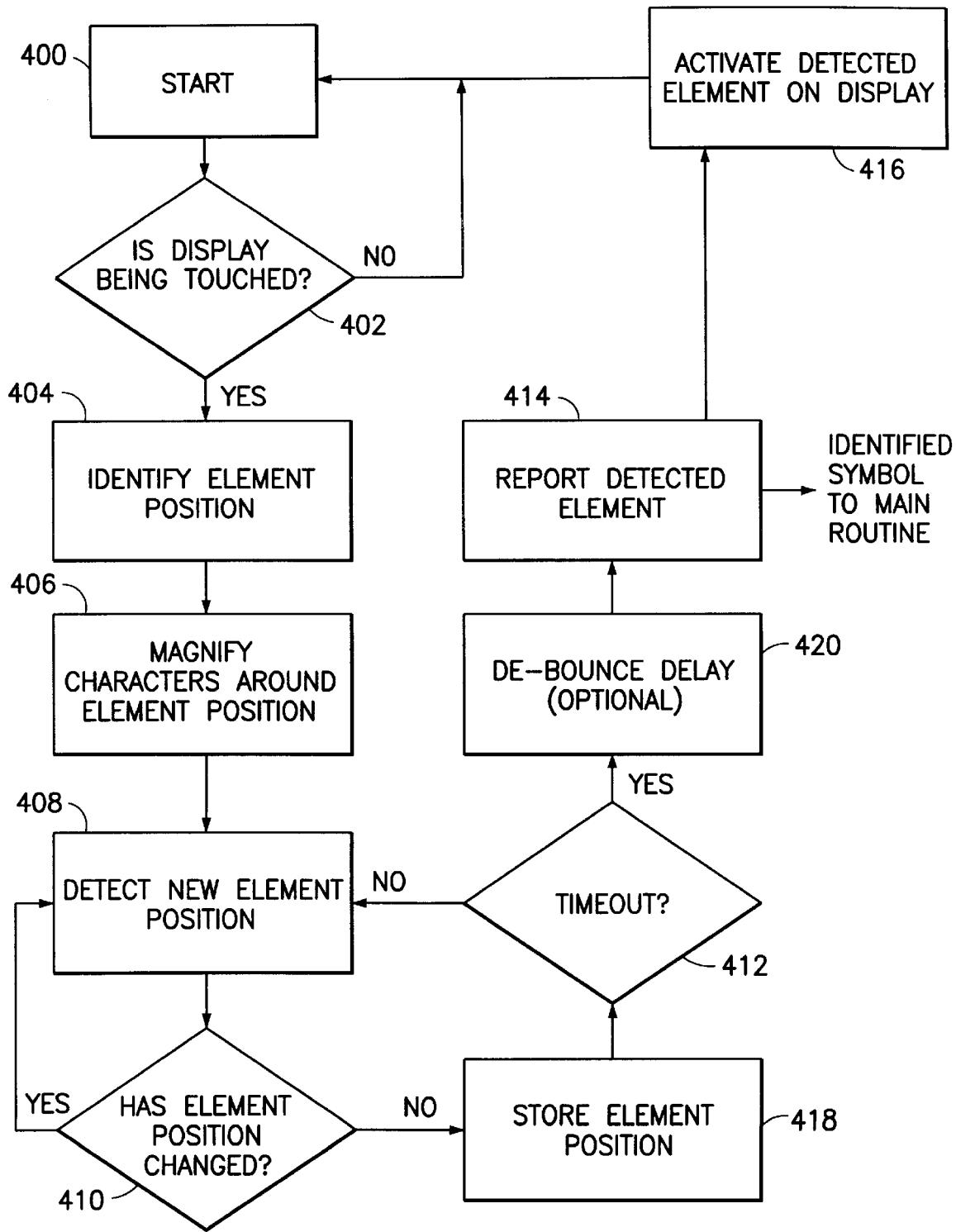


FIG. 4A

# 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.