

[54] DELAYED RESPONSE TOUCH SWITCH CONTROLLER

[75] Inventor: John F. DePauli, San Diego, Calif.

[73] Assignee: Westek Associates, San Diego, Calif.

[\*] Notice: The portion of the term of this patent subsequent to Jul. 3, 2007 has been disclaimed.

[21] Appl. No.: 165,591

[22] Filed: Mar. 8, 1988

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 148,767, Jan. 26, 1988.

[51] Int. Cl.<sup>5</sup> ..... H01J 7/66; H05B 37/02; H05B 41/04

[52] U.S. Cl. .... 315/74; 315/291; 315/DIG. 4; 315/360; 315/362

[58] Field of Search ..... 307/116, 114; 315/74, 315/291, 194, 199, DIG. 4, 362, 360

[56] References Cited

U.S. PATENT DOCUMENTS

- 4,160,192 7/1979 McAllise ..... 315/360 X
- 4,359,670 11/1982 Hosakia et al. .... 315/307
- 4,508,997 4/1985 Woodnutt ..... 315/360
- 4,649,323 3/1987 Pearlman et al. .... 315/307

Primary Examiner—Eugene R. Laroche

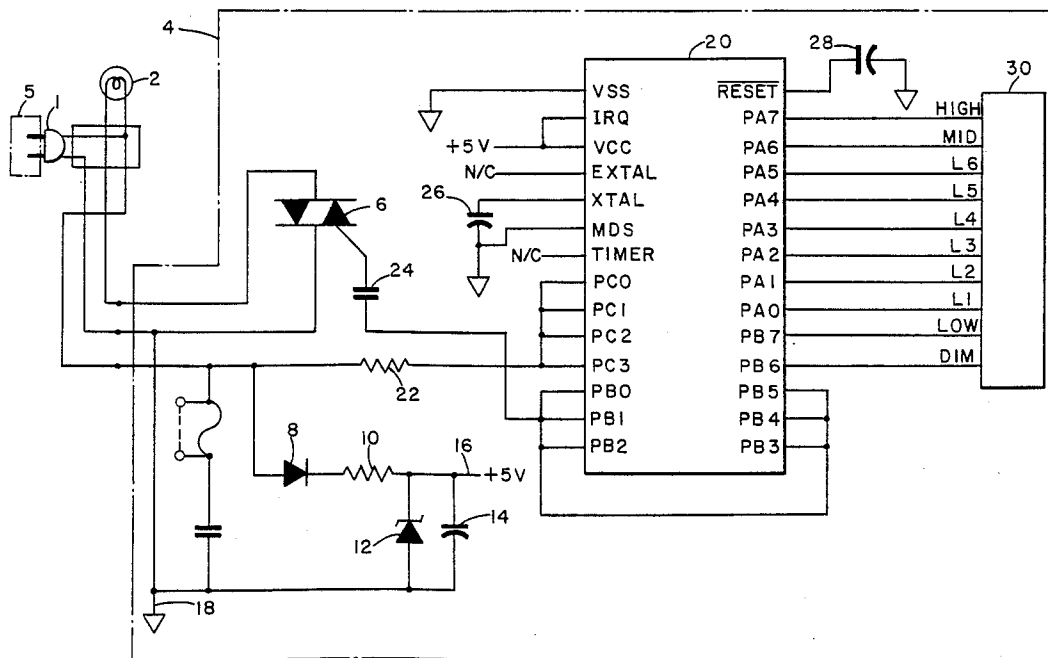
Assistant Examiner—Ali Neyzari

Attorney, Agent, or Firm—Brown, Martin, Haller & McClain

[57] ABSTRACT

The present invention provides a very low actuation force touch control switch for use in brightness control of illumination devices. The control switch comprises a flexible membrane having a plurality of conductors disposed on one surface and secured to a rigid support surface. The conductors are interwoven in a present pattern with portions of the conductors being exposed. A conductive surface is formed in an area under the exposed conductors. The membrane is fastened to the rigid support surface so that a very small spacing is maintained between the exposed conductors and the fixed conductive surface, allowing a very light touch to cause one or more exposed conductors to be shorted to the conductive surface. A microprocessor periodically polls the leads of the membrane to determine which are shorted together and causes an output power level to be adjusted accordingly. The touch control system employs a Delayed-Off feature in which the microprocessor causes a discernible dimming to occur when a DELAYED-OFF selection are on the membrane is pressed but which delays the turning off of the illumination device until a preselected amount of time has passed, thereby allowing a switch operator to leave an area before becoming dark. In addition, Soft-On and Soft-Off processing is employed so that on and off transitions are more gradual and aesthetically pleasing and to provide a period in which to select an alternate brightness level.

20 Claims, 4 Drawing Sheets



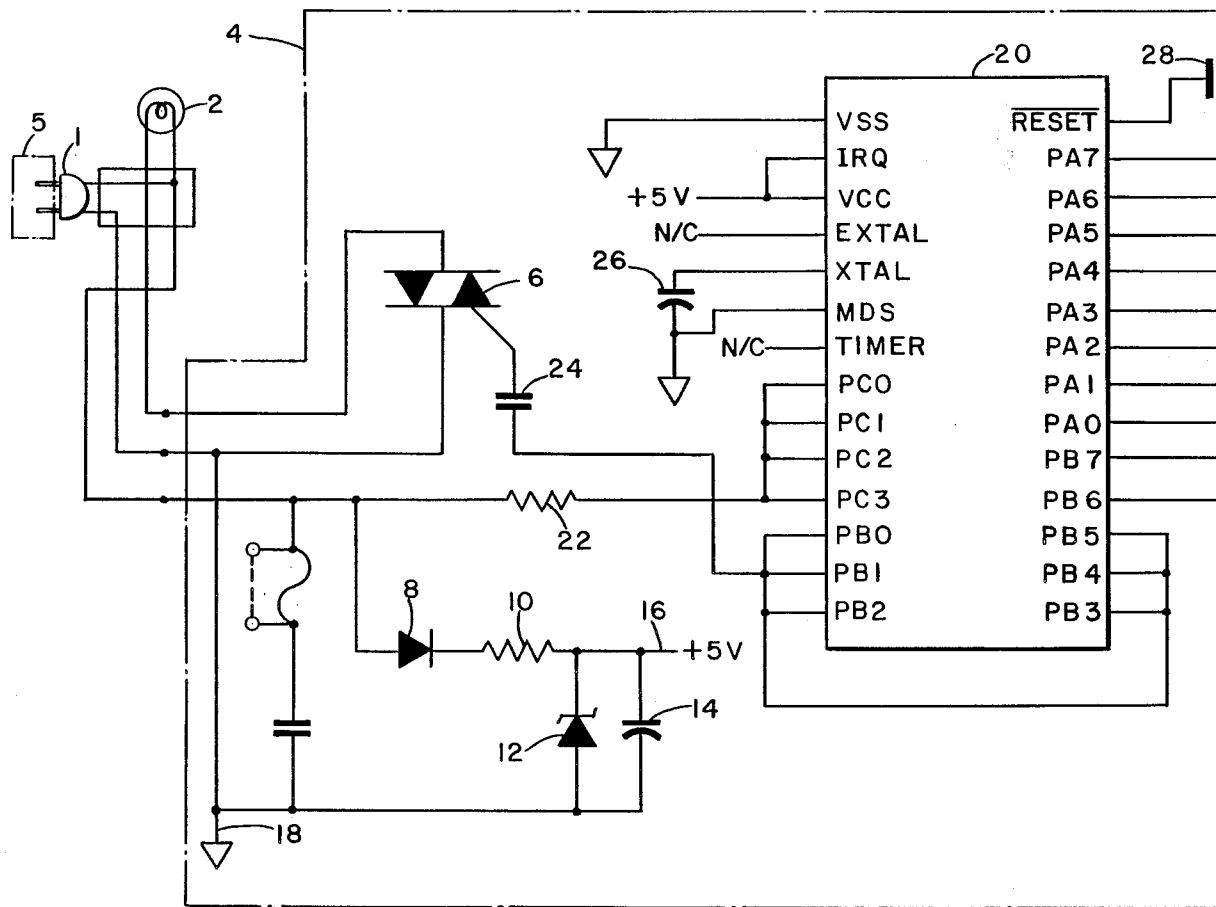


FIG. 1

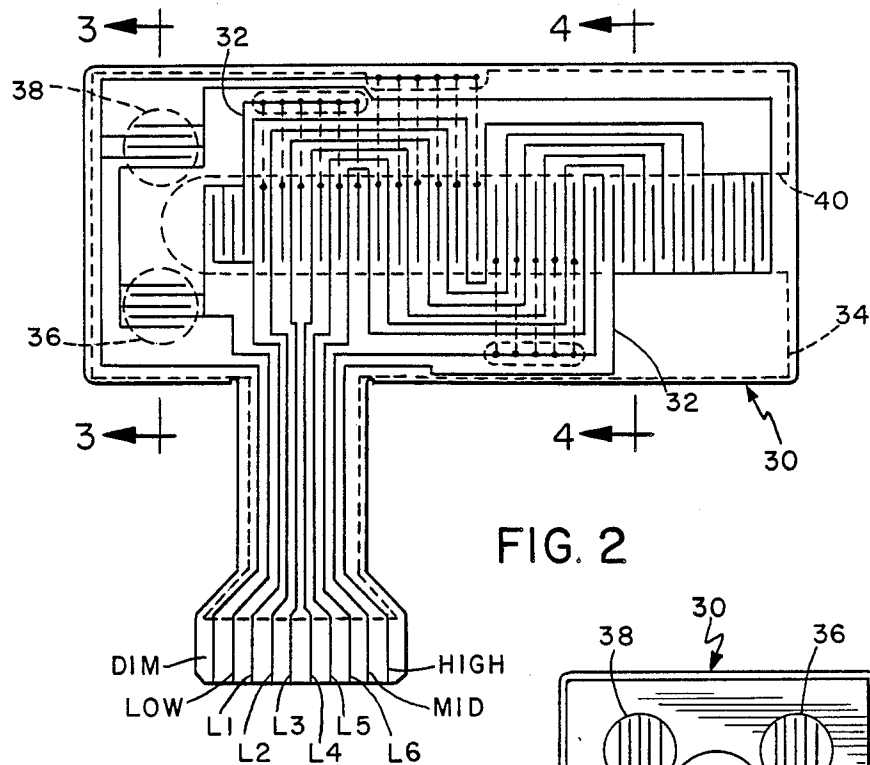


FIG. 2

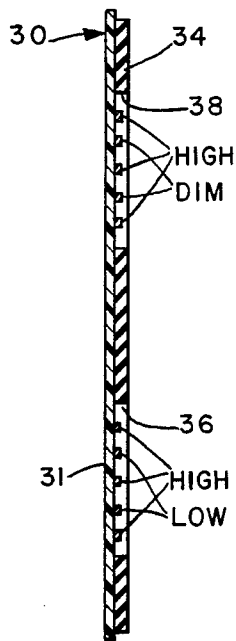


FIG. 3

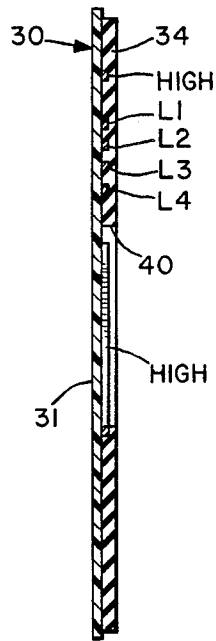


FIG. 4

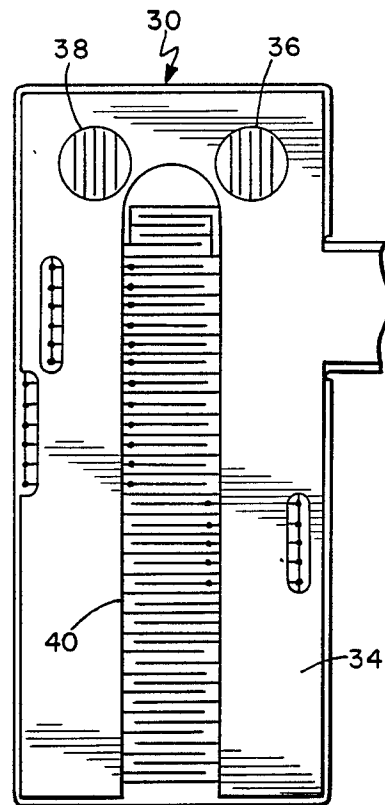
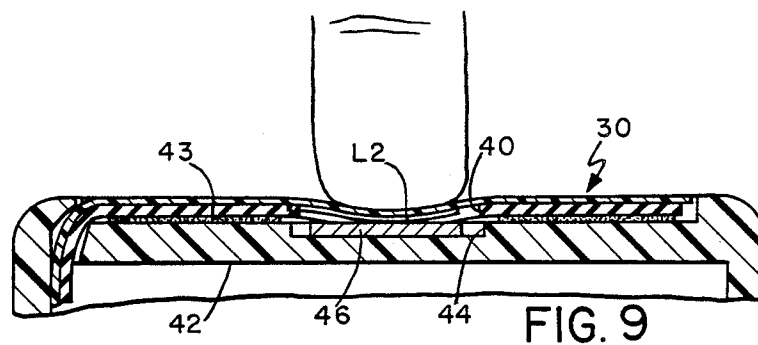
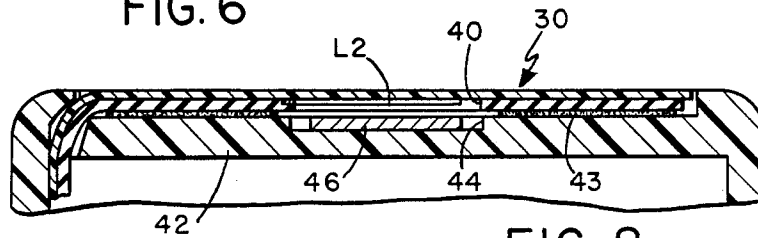
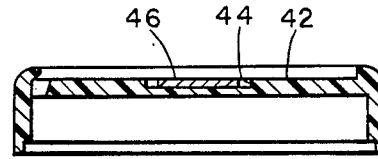
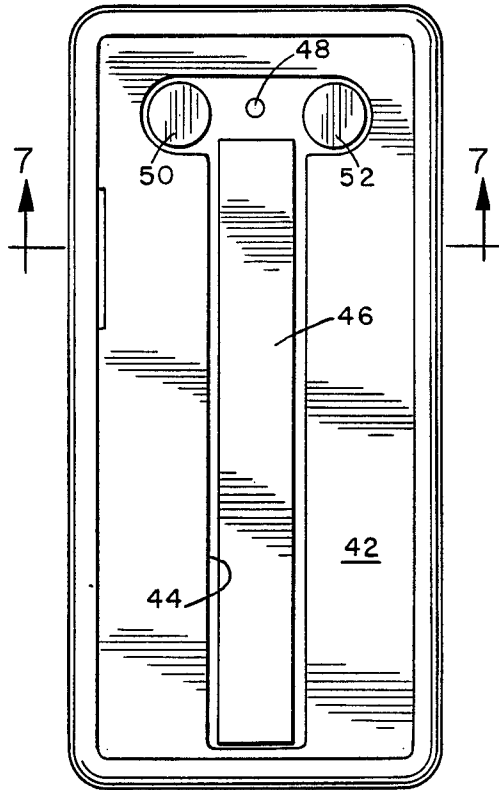


FIG. 5



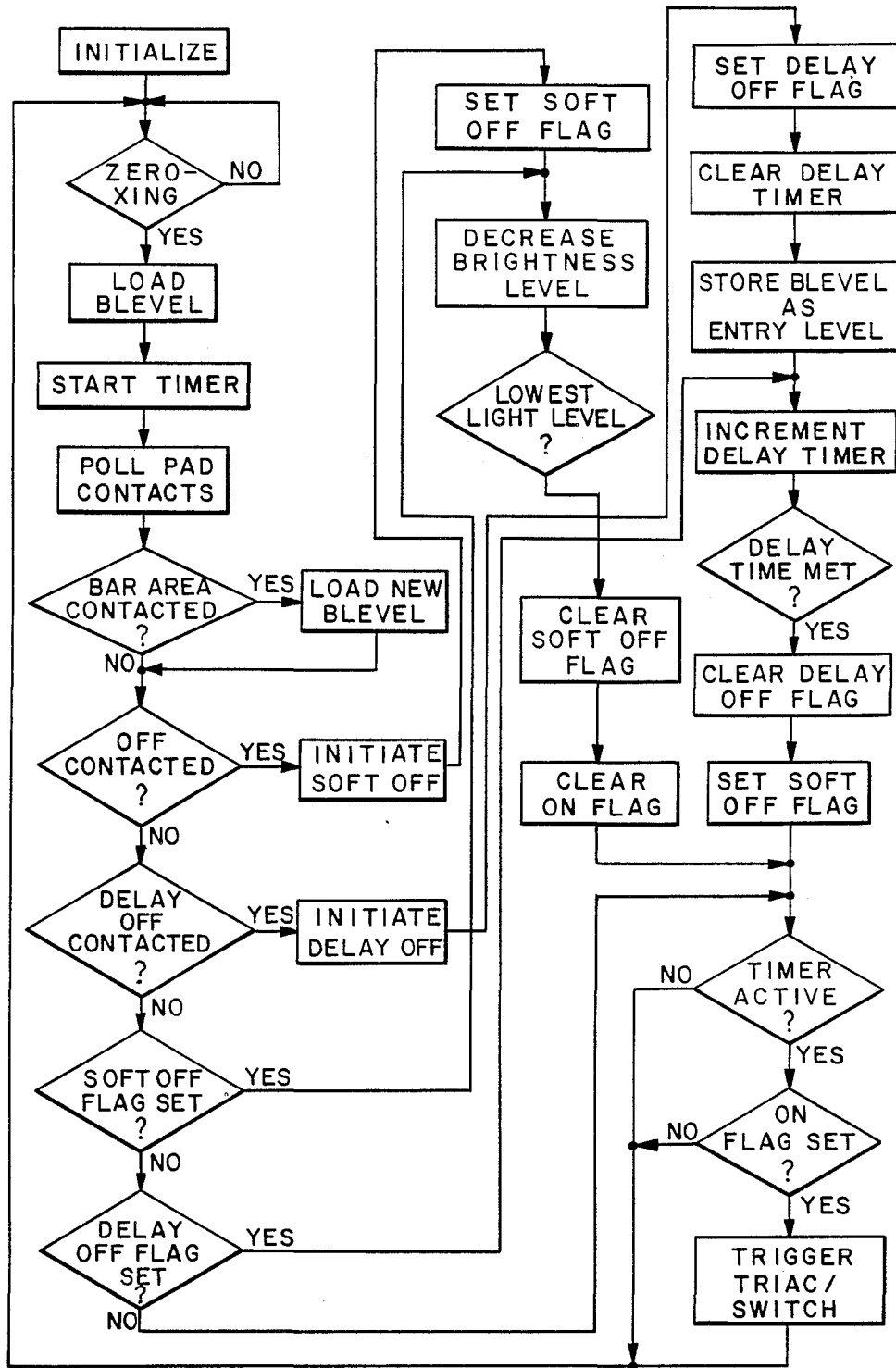


FIG. 10

# 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.