(APP) PATENTS, ETC

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Sept. 10, 1986

Mr. Duane D. Pearsall
24758 Foothills Drive North
Golden, Colorado 80401

Re: Statitrol Battery-Monitoring Smoke Detector

Dear Mr. Pearsall:

Pursuant to our recent telephone conference, I enclose herewith a Declaration by you, with attached Exhibits, which are copies of pages from the laboratory notebook of Lyman Blackwell, which we discussed.

Please review the Declaration and Exhibits and sign and date the Declaration in the spaces provided at the end. Then return the Declaration and exhibits to me in the enclosed stamped, self-addressed return envelope.

If you have any questions concerning any of the foregoing, please do not hesitate to call. Thank you for your cooperation in this matter.

Sincerely yours,

J. Terry Stratman

J. Terry Stratman

JTS:if
encls.

DECLARATION OF DUANE D. PEARSALL

I, DUANE D. PEARSALL, declare and say that:

1. I reside at 24758 Foothills Drive North, Golden, Colorado 80401.

2. During 1970 and 1971 I was President of Statitrol Corporation, a Colorado Corporation which had its principal place of business at 140 South Union Boulevard, Lakewood, Colorado 80228.

3. In late 1970 and early 1971, Statitrol Corporation developed a battery-powered smoke detector incorporating a battery voltage monitoring circuit.

4. On or shortly before October 15, 1970, Lyman L. Blackwell explained to me and I understood the operation of the smoke detector circuit with battery voltage monitoring, illustrated in the attached Exhibit 1. On that date I signed the original of Exhibit 1. ~~Shortly prior to that date I witnessed the successful operation of a prototype of the circuit illustrated in Exhibit 1.~~

5. On or shortly before November 19, 1970, Lyman L. Blackwell explained to me and I understood the operation of the smoke detector circuit with battery monitoring illustrated in the attached Exhibit 2. On that date I signed and dated the original of Exhibit 2.

~~Shortly prior to that date I witnessed the successful operation of a prototype of the circuit illustrated in Exhibit 2.~~

6. On or shortly before November 19, 1970, Lyman L. Blackwell explained to me and I understood the operation of the battery monitoring circuit illustrated in the attached Exhibit 3. On that date I signed and dated the original of Exhibit 3. ~~Shortly prior to that date I witnessed the successful operation of a prototype of the circuit illustrated in Exhibit 3.~~

7. All of the activities recited in the foregoing paragraphs 4-6 occurred at the offices of Statitrol Corporation.

I declare further, that under penalty of perjury under the laws of the United States of America, the foregoing AS CORRECTED is true and correct.

Executed on September 14, 1986 at Golden, Colorado.

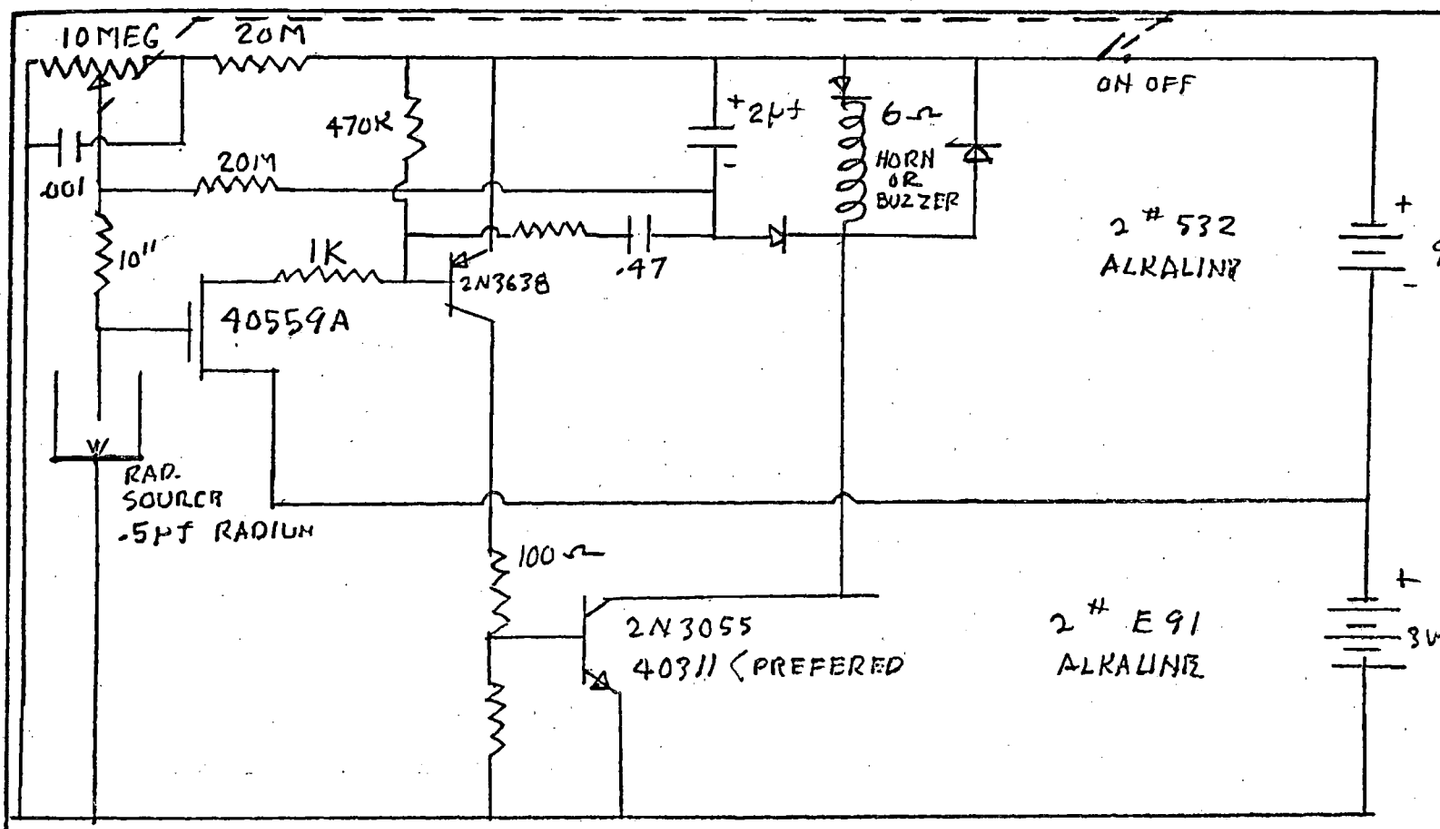
Duane D. Pearsall

IONIZATION CHAMBER

TITLE BATTERY OPERATED FIRE DETECTOR

Project No. _____

Book No. _____



CURRENT

STANDBY CURRENT 20 μAMPS

PULSE ALARM 50 - 80 MA.

CONTINUOUS ALARM — 150 - 200 M.A.

BATTERY

2 YEARS

10 - 20 HOURS

4 HOURS

WEAKENING BATTERIES CAUSE INTERMITTENT HORN ALARM

SMOKE PRODUCES INTERMITTENT ALARM (10 SEC) (2% OBSC

CONTINUOUS 4% OBSCURITY SMOKE

HEAT TEST ALARM 135° TO 140° F

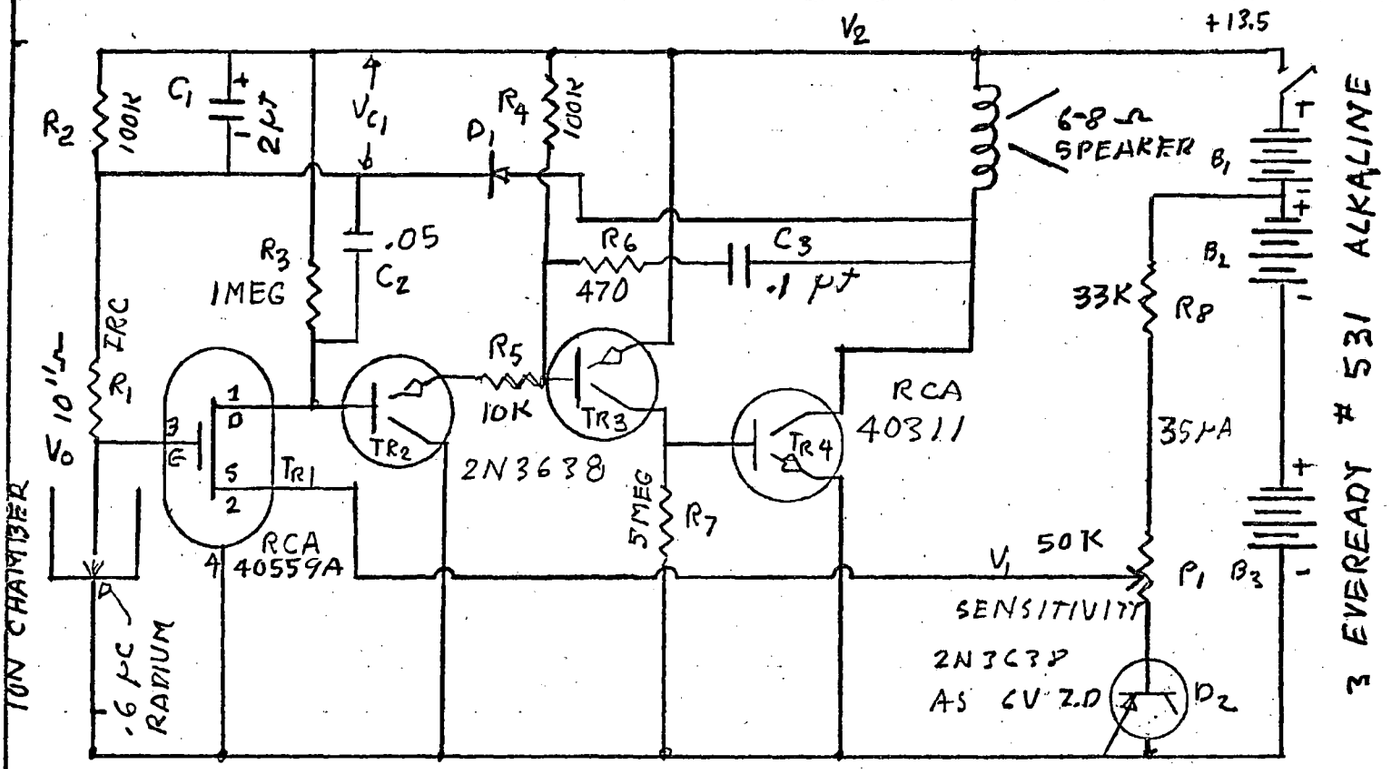
EXHIBIT 1

Witnessed & understood by me,	Date	Invented by	Date	
[signature]	Sept 15 1972	L L Blackwell	OCT - 11 - 14	PROTO DECLINE STATUS

Project No. _____

TITLE BATTERY OPERATED FIRE DETECTOR INTERMITTENT ALARM

Book No. _____



OPERATION:

ION CHAMBER HOLDS TR1 OFF IN CLEAR AIR. (SENSITIVITY SET BY THE NEGATIVE BIAS VOLTAGE V_1 TO HOLD TR_1 OFF) (2VOLTS G-S HOLDS TR_1 OFF)

WITH TR_1 OFF TR_2, TR_3, TR_4 HELD OFF, SMOKE IN CHAMBER CAUSES GATE 3 TO GO POSITIVE AND TR_1 STARTS TO TURN ON. WHEN DROPS TO LESS THAN 2 VOLTS NEGATIVE WITH RESPECT TO SOURCE "S", TR_1 TURNING ON TURNS TR_2 ON, TURNING ON TR_3 AND TR_4 WHICH OSCIL PRODUCING SOUND IN SPEAKER. ($R_6 - C_3$ PROVIDE + FEEDBACK FOR OSCILLAT C_2 PROVIDES A FAST PULSE WHICH DRIVES TR_2 HARD ON PRODUCING SHARP LOUD NOISE IN SPEAKER. D_1 SUPPLIES NEGATIVE VOLTAGE TO C_1 WHIC DRIVES 'G' GATE OF TR_1 — TURNING IT OFF. (VOLT. ACROSS $C_1 \sim 5-9$ V) ALARM TURNS OFF UNTILL V_{C1} DECAYS THROUGH R_2 THAN ALARM AGAI TURNS ON UNLESS SMOKE CLEARS CHAMBER. 45 µA CURRENT THROUGH R_8, P_1, AND D_2 DRAIN BATTERIES B_1 AND B_2 TO CAUSE ALARM AFTER 10 HOURS TO WARN CUSTOMER TO REPLACE BATTERIES

EXHIBIT 2

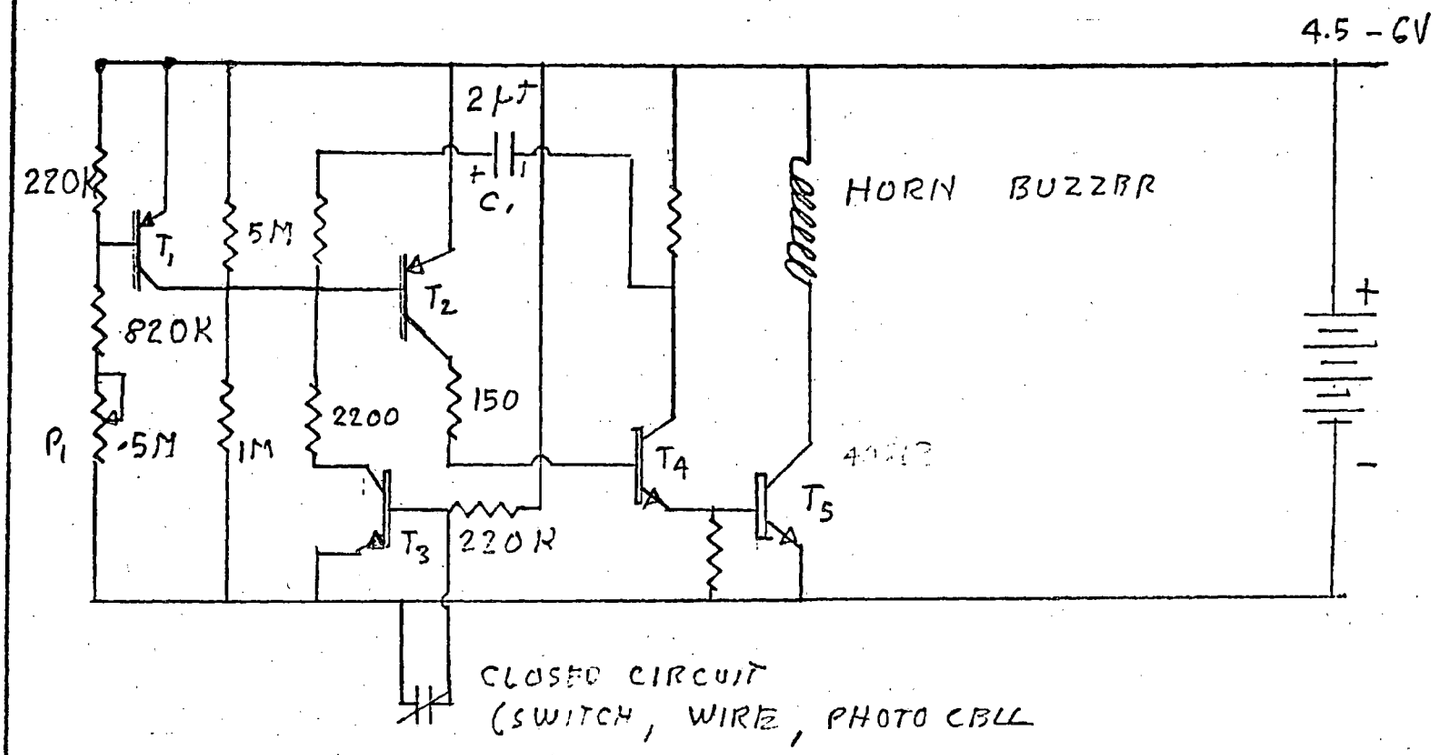
Witnessed & Understood by me,	Date	Invented by	Date
[signature]	May 19, 1970	Tyson L Blackwell	Oct 23 1970

B_1 B_2 ALARM WHEN CURRENT DROPS TO 5-10 MA AND BATTERY VOLTAGE DROPS TO 5.6 VOLTS FROM 9. BATTERY NOW HAS 700 MA.. HRS (20,000 HOURS AT 35 MA) AT 14000 HOURS HAS 300 MA HOURS SUFFICIENT TO OPERATE ALARM FOR 15 HOURS.

Project No. _____

TITLE LOW CURRENT BATTRY OPRRATRD ALARM Book No. _____

WITH AUTOMATIC LOW BATTERY AUDIO SIGNAL



T_1 SENSES LOW BATTERY VOLTAGE. A SET BY P_1

$T_2 - T_4$ AMPLIFIER OSCILLATOR.

T_5 - HORN DRIVING AMPLIFIER.

EXHIBIT 3

Witnessed & Understood by me,	Date	Invented by	Date
[illegible]	[illegible] 1970	Lyman L Buckwald	Nov 11 70