SIMPLE METAL DETECTOR

FUNCTION: This circuit detects any ferrous materials that comes near its sensor. Sensor range being 1inch

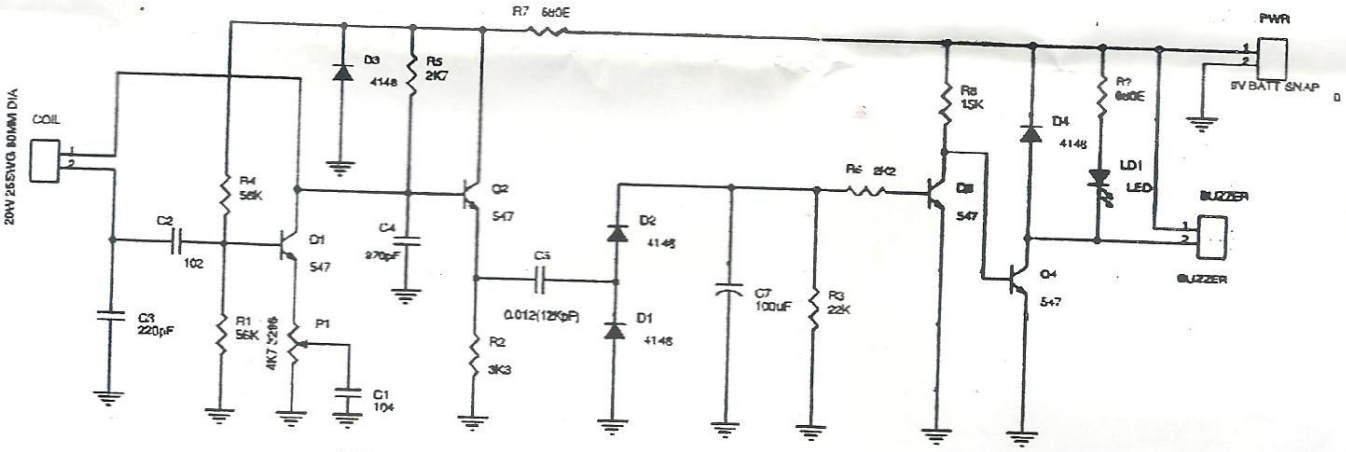
PRINCIPLE: The circuits consists of a tuned Colpitt's oscillator and a switching circuit. Any ferrous materials brings the resonance circuit to be untuned. This untuning is sensed by the transistor circuit to buzz a buzzer.

ADJUSTMENTS: The value of preset resistor 4K7 has to be adjusted till the circuit stops sounding in the absence of any ferrous material

MAIN COMPONENT: 1.Sensing coil 2.547 NPN transistors

LEARNING OBJECTIVE:
1.Learning basics of Collpitt's oscillator
2. Learning about the rf circuits

SKILL LEVEL REQUIREMENT:
1.Component identification
2.Polarity identification
3. Soldering
4.Inductor winding



COMP	VALUE	QTY
R4,R1	56K	2
R2	3K3	1
R3	22K	1
R5	2K7	1
R6	2K2	1
R7,R9	680E	2
R8	15K	1
P1	5K ~~4K73296~~	1
C1	104	2
C2	102	1
C3	220pF	1
C4	270pF	1
C5	10KpF	1
C7	100uF	1
D1,D2,D3,D4	4148	4
LD1	LED	1
Q1,Q2,Q3,Q4	547	4
COIL	20W 25SWG 60MM DIA	1
PWR	9V BATT SNAP.	1
BUZZER	BUZZER	1